FREDRIK OTTO LINDEMAN

INTRODUCTION TO THE 'LARYNGEAL THEORY'

FREDRIK OTTO LINDEMAN

INTRODUCTION TO THE ‘LARYNGEAL THEORY’

Innsbruck 1997

Die INNSBRUCKER BEITRÄGE ZUR SPRACHWISSENSCHAFT werden gefördert von der Kulturabteilung des Amtes der Tiroler Landesregierung. Der Druck des vorliegenden Bandes erfolgte mit zusätzlicher Unterstützung des Universitätsbundes Innsbruck

Die Deutsche Bibliothek – CIP-Einheitsaufnahme
Lindeman, Fredrik Otto:
Introduction to the ‚Laryngeal Theory'. /
Fredrik Otto Lindeman.
Innsbruck : Inst. für Sprachwiss. der Univ., 1997
(Innsbrucker Beiträge zur Sprachwissenschaft ; Bd. 91)
ISBN 3–85124–666–7.
NE: GT

1997
INNSBRUCKER BEITRÄGE ZUR SPRACHWISSENSCHAFT
Herausgeber: Prof. Dr. Wolfgang Meid

Institut für Sprachwissenschaft der Universität Innsbruck
A-6020 Innsbruck, Innrain 52

Herstellung der Druckvorlage durch den Autor
Druck: Druckhaus Grasl, A-2540 Bad Vöslau

Bestell- und Auslieferungsadresse:
A-6020 Innsbruck, Elisabethstraße 11

Contents

Preface 7
Abbreviations 9
Note on the Use of Symbols 19
I General observations on the 'Laryngeal Theory' 21
§§ 1-3 Introduction 21
§§ 4-9 Main features of the 'Laryngeal Theory' 23
§§ 10-14 Ferdinand de Saussure 28
II On the necessity of recognizing the actual existence of 'laryngeals' in Early Indo-European 33
§§ 15-19 The ablaut of the disyllabic or 'heavy' bases 33
§§ 20-22 Hittite *h* 36
III 'Laryngeal' reflexes found in the various IE languages 41
§ 23 Preliminary remark 41
§§ 24-32 'Laryngeals' initially in the position before a following syllabic sound 42
§§ 33-36 'Laryngeals' in internal position between syllabic sounds 58
§ 37 'Laryngeals' in the position after a non-syllabic and before a syllabic sound 66
§§ 38-46 'Laryngeals' in the position after a full grade vowel and before a non-syllabic sound (or in word-final position) 69
§§ 47-51 'Laryngeals' in the position after a syllabic resonant and before a non-syllabic sound (or in word-final position) 88
§§ 52-54 'Laryngeal' metathesis 108
§§ 55-59 Assimilation of a 'laryngeal' and **y* or **w* 111
§§ 60-65 The 'natural' long diphthongs of Indo-European 118
§§ 66-70 Prothetic vowels in Greek and Armenian 122
§§ 71-72 The Balto-Slavic intonations 139
§§ 73-75 The voiceless aspirates of Indo-Iranian 142

§§ 76-77 On some mediae aspiratae in Indo-Iranian 148
§§ 78-83 'Hardening' of certain 'laryngeals' to *k* or *g* 152
§§ 84-88 'Laryngeals' in the position between non-syllabics 157
IV Phonology and 'laryngeals' 173
§§ 89-95 On the phonemic status of the 'laryngeals' 173
§§ 96-103 Conclusions 186
Select Bibliography 197
Index verborum 213
Index nominum 243

Preface

This book is a revised and augmented edition of my work Introduction to the 'Laryngeal Theory', Oslo 1987; much new material has been added and some passages from the previous edition have been removed.

The 'Laryngeal Theory' is a powerful tool which is in constant use in the field of Indo-European studies. The theory, however, appears in many forms which occasionally may be mutually conflicting. Students of our discipline may therefore have difficulties in finding their way through this diversity. It is my hope that the present edition which critically surveys much of the 'laryngalist' literature of the last decade, can be of some help in this respect.

The presentation will necessarily be dominated by my personal views on the 'Laryngeal Theory', but I have tried to consider diverging views and hypotheses with an objective and critical mind. Some suggestions which I have found of little value, have been left out of my discussion. The word 'laryngeal' always appears between inverted commas when referring to the Indo-European 'laryngeals' whose phonetic nature is yet unknown.

A special word of thanks to Professor Erich Neu (Ruhr-Universität Bochum) to whom I am indebted for encouragement and valuable assistance with the Anatolian material.

My manuscript was completed in October 1996.

Fredrik Otto Lindeman

Abbreviations

AAL = *Annual of Armenian Linguistics*

ActOr. = *Acta Orientalia*

AION Sezione Linguistica = *Annali dell'Istituto Orientale di Napoli. Sezione Linguistica*

Anttila, *Schwebeablaut* = Raimo Anttila, *Proto-Indo-European Schwebeablaut*, (University of California Publications Linguistics 58), 1969

AO = *Archiv Orientální*

ArchLing. = *Archivum Linguisticum*

BAC = *Bochumer altertumswissenschaftliches Colloquium*

BBCS = *The Bulletin of the Board of Celtic Studies*. University of Wales

Beekes, *Development* = R.S.P. Beekes, *The Development of the Proto-Indo-European Laryngeals in Greek*, (Janua Linguarum Studia Memoriae Nicolai van Wijk Dedicata, Series Practica 42), 1969

Benveniste, *Origines* = Émile Benveniste, *Origines de la formation des noms en indo-européen*, Paris, 1935

Benveniste, *HI* = Émile Benveniste, *Hittite et indo-européen*, Paris 1962

BiOr. = *Bibliotheca Orientalis*

Bono homini donum = *Bono homini donum. Essays in Historical Linguistics in Memory of J. Alexander Kerns*, 1981

Brugmann, *Grdr.* = Karl Brugmann und Berthold Delbrück, *Grundriss der vergleichenden Grammatik der indogermanischen Sprachen*, 2. Auflage, Strassburg, 1897-1916

BSL = *Bulletin de la Société de linguistique de Paris*

BSOAS = *Bulletin of the School of Oriental and African Studies*, London

Catsanicos, *Recherches sur le vocabulaire de la Faute* = J. Catsanicos, *Recherches sur le vocabulaire de la Faute. Apports du Hittite à l'étude de la phraséologie indo-européenne* = Cahiers de N.A.B.U. 2. SEPOA, Paris, 1991

Chantraine, *DELG* = Pierre Chantraine, *Dictionnaire étymologique de la langue grecque. Histoire des mots.* Paris 1968-1980

Chomsky and Halle, *SPE* = N. Chomsky and M. Halle, *The Sound Pattern of English*, New York, 1968

Corolla linguistica = *Corolla linguistica, Festschrift Ferdinand Sommer*, Wiesbaden, 1955

Couvreur, *Hett Ḫ* = Walter Couvreur, *De Hettitische Ḫ, een bijdrag tot de Studie van het Indo-Europeesche Vocalisme*, (Bibliothèque du Muséon 5), Louvain, 1937

ÉC = *Études Celtiques*, Paris

EngStud. = *Englische Studien*, Heilbronn

Ériu = *Ériu founded as the Journal of the School of Irish Learning Devoted to Irish Philology and Literature*, Dublin

EvfL = *Evidence for Laryngeals*, second edition edited by Werner Winter (Janua Linguarum Studia Memoriae Nicolai Van Wijk Dedicata. Series Maior XI), 1965

Fachtagung V = *Flexion und Wortbildung*. Akten der V. Fachtagung der Indogermanischen Gesellschaft Regensburg, 9-14 September 1973, Wiesbaden 1975

Fachtagung VI = *Lautgeschichte und Etymologie*. Akten der VI. Fachtagung der Indogermanischen Gesellschaft Wien, 24-29 September 1978, Wiesbaden, 1980

Fachtagung VII = *Grammatische Kategorien Funktion und Geschichte*. Akten der Indogermanischen Gesellschaft Berlin 20.-25. Februar 1983, Wiesbaden, 1985.

Fachtagung VIII = *Rekonstruktion und relative Chronologie*. Akten der VIII. Fachtagung der Indogermanischen Gesellschaft Leiden 31. August-4. September 1987, Innsbruck, 1992

Fachtagung IX = *Früh-, Mittel-, Spätindogermanisch*. Akten der IX. Fachtagung der Indogermanischen Gesellschaft vom 5. bis 9. Oktober 1992 in Zürich, Wiesbaden, 1994

Festschrift Neumann = *Serta Indogermanica. Festschrift für Günter Neumann zum 60. Geburtstag*, ed. J. Tischler, Innsbruck, 1982

Festschrift Otten = *Festschrift Heinrich Otten*, 1973, eds. E. Neu und Christel Rüster

Festschrift Rix = *Indogermanica et Italica. Festschrift für Helmut Rix*, ed. G. Meiser, Innsbruck, 1993. Innsbrucker Beiträge zur Sprachwissenschaft Band 72

Festschrift K.H. Schmidt = *Indogermanica et Caucasica Festschrift für Karl Horst Schmidt*, eds. R. Bielmeier und R. Stempel, Berlin.New York, 1994

Festschrift Strunk = *Verba et Structurae, Festschrift für Klaus Strunk*, eds. H. Hettrich *et al.*, Innsbruck, 1995. Innsbrucker Beiträge zur Sprachwissenschaft Band 83

Festschrift Szemerényi = *Studies in Diachronic, Synchronic, and Typological Linguistics. Festschrift für Oswald Szemerényi on the Occasion of the 65th Birthday*. 2 Vols., Amsterdam, 1979

Festschrift Szemerényi III = *Comparative-Historical Linguistics Indo-European and Finno-Ugric Papers in Honor of Oswald Szemerényi III*, eds. B. Brogyani and R. Lipp, Amsterdam/Philadelphia, 1993. Amsterdam Studies in the Theory and History of Linguistic Science. Series IV. Current Issues in Linguistic Theory.

FlorAnat. = *Florilegium Anatolicum, Mélanges offerts à Emmanuel Laroche*, Paris, 1979

Friedrich, *HethWb.* = Johannes Friedrich, *Hethitisches Wörterbuch*, Heidelberg, 1952

Gamkrelidze, *Laringal'naja Teorija* = T.V. Gamkrelidze, *Xettskij Jazyk i laringal'naja Teorija* (Akademija Nauk Gruzinskoj SSR), Tbilisi, 1960

Gedenkschrift Kronasser = *Investigationes Philologicae et Comparativae. Gedenkschrift für Heinz Kronasser*, ed. E. Neu, Wiesbaden, 1982

Godel, *Introduction* = R. Godel, *An Introduction to the Study of Classical Armenian*, Wiesbaden, 1975

HdO = *Handbuch der Orientalistik*

HethIdg. = *Hethitisch und Indogermanisch. Vergleichende Studien zur historischen Grammatik und zur dialektgeographischen Stellung der indogermanischen Sprachgruppe Altkleinasiens*, eds. E. Neu and W. Meid (Innsbrucker Beiträge zur Sprachwissenschaft, Band 25), 1979

Hirt, *IdgGr.* = Hermann Hirt, *Indogermanische Grammatik*, 7 Bd., Heidelberg, 1927-37

HS = Historische Sprachforschung (Historical Linguistics)

HSCPh. = Harvard Studies in Classical Philology

IF = Indogermanische Forschungen

IIJ = Indo-Iranian Journal

In honorem H. Pedersen = In honorem Holger Pedersen, Kolloquium der Indogermanischen Gesellschaft vom 25. bis 28. März 1993 in Kopenhagen, ed. J.E. Rasmussen.

Ivanov, *Obščeindoevropejskaja* = V.Vs. Ivanov, *Obščeindoevropejskaja praslavjanskaja i anatolijskaja jazykovye sistemy, Moskva, 1965*

Jackson, *HPhB* = K. Jackson, *A Historical Phonology of Breton*, Dublin 1967

JAOS = Journal of the American Oriental Society

JIES = The Journal of Indo-European Studies

JL = Journal of Linguistics

Kammenhuber, *Hethitisch* = Annelies Kammenhuber, *Hethitisch, Palaisch, Luwisch und Hieroglyphenluwisch, HdO*, 1. Abt.,2. Bd., 1. und 2. Abschnitt, 1969, pp. 119-355

Kratylos = Kratylos. Kritisches Berichts- und Rezensionsorgan für indogermanische und allgemeine Sprachwissenschaft, Wiesbaden

Kronasser, *EHS* = Heinz Kronasser, *Etymologie der hethitischen Sprache*, Wiesbaden, 1962ff

Kronasser, *VLFH* = Heinz Kronasser, *Vergleichende Laut- und Formenlehre des Hethitischen*, Heidelberg, 1956

Kuryłowicz, *Apophonie* = Jerzy Kuryłowicz, *L'apophonie en indoeuropéen*, Wrocław, 1956

Kuryłowicz, *ÉI* = Jerzy Kuryłowicz, *Études Indoeuropéennes* I, Krakow, 1935

Kuryłowicz, *IdgGr. II* = Jerzy Kuryłowicz, *Indogermanische Grammatik II. Akzent. Ablaut*, Heidelberg, 1968

Kuryłowicz Memorial Volume I = *Kuryłowicz Memorial Volume* Part One, ed. W. Smoczyński, Cracow, 1995

Kuryłowicz, *Problèmes* = Jerzy Kuryłowicz, *Problèmes de linguistique indo-européenne* (Polska Akademia Nauk Komitet Językoznawstwa Prace Językoznawcze 90), Wrocław, 1977

KZ = *Zeitschrift für vergleichende Sprachforschung* (begründet von A. Kuhn)

La reconstruction des laryngales = *La reconstruction des laryngales.* Paris, Société d'Édition "Les Belles Lettres", 1990. Bibliothèque de la Faculté de Philosophie et Lettres de l'Université de Liège, 253. Cf. the review by Lindeman, *Kratylos* 37, 58-62

Laroche, *DLL* = Emmanuel Laroche, *Dictionnaire de la langue louvite*, Paris, 1959

Laryngaltheorie = *Die Laryngaltheorie und die Rekonstruktion des indogermanischen Laut- und Formensystems*, ed. A. Bammesberger,
Heidelberg, 1988. Cf. the review by Lindeman, *HS* 102, 1989, 268 ff

Lehmann, *PIEPh.* = Winfred P. Lehmann, *Proto-Indo-European Phonology*, Austin, 1955

Lejeune, *Phonétique historique* = Michel Lejeune, *Phonétique historique du mycénien et du grec ancien*, Paris, 1972

Lg. = *Language, Journal of the Linguistic Society of America*, Baltimore

Lindeman, *Verschärfung* = Fredrik Otto Lindeman, *Les Origines indo-européennes de la 'Verschärfung' germanique*, Oslo, 1964

Lindeman, *EL* = Fredrik Otto Lindeman, *Einführung in die Laryngaltheorie*, Berlin, 1970

Lindeman, *Triple representation* = Fredrik Otto Lindeman, *The triple representation of Schwa in Greek and some related problems of Indo-European phonology*, Oslo, 1982

Lindeman, *Introduction* = Fredrik Otto Lindeman, *Introduction to the 'Laryngeal Theory'*, Oslo, 1987

Martinet, *Économie* = André Martinet, *Économie des changements phonétiques* (Bibliotheca Romanica, Series Prima Manualia et Commentationes X), 1955

Mayrhofer, *AietymWb.* = Manfred Mayrhofer, *Kurzgefasstes etymologisches Wörterbuch des Altindischen*, Heidelberg, 1953 ff.

Mayrhofer, *EWAIA* = M. Mayrhofer, *Etymologisches Wörterbuch des Altindoarischen*, Heidelberg 1986—

Mayrhofer, *IdgGr.* 1 = *Indogermanische Grammatik*, Band I, 1. Halbband: Einleitung von W. Cowgill, Ins Deutsche übersetzt und bibliographisch bearbeitet von A. Bammesberger und M. Peters. 2. Halbband: Lautlehre
(Segmentale Phonologie des Indogermanischen) von Manfred Mayrhofer, Heidelberg, 1986

Meillet, *Esquisse* = Antoine Meillet, *Esquisse d'une grammaire comparée de l'arménien classique*, 2ᵉ édition, Vienne, 1936

Meillet, *Introduction* = Antoine Meillet, *Introduction à l'étude comparative des langues indo-européennes*, 8ᵉ édition, Paris, 1937

Mélanges Chantraine = *Mélanges de linguistique et de philologie grecques offerts à Pierre Chantraine*, 1972

Mélanges F. Mossé = *Mélanges de linguistique et de philologie Fernand Mossé in memoriam*, Paris, 1959

Mélanges Grégoire II = *Mélanges Henri Grégoire* (Annuaire de l'institut de philologie et d'histoire orientales et slaves, Tome X), 1950

Mélanges Renou = *Mélanges d'indianisme à la mémoire de Louis Renou*, Paris, 1968

Melchert, *StHHPh.* = H. Craig Melchert, *Studies in Hittite Historical Phonology* (Ergänzungshefte zur Zeitschrift für Vergleichende Sprachforschung Nr. 32), Göttingen, 1984

Melchert, *Lycian Lexicon* = H. Craig Melchert, *Lycian Lexicon.* Lexica Anatolica Volume 1, Chapel Hill, N.C., 1993

Melchert, *Cuneiform Luvian Lexicon* = H. Craig Melchert, *Cuneiform Luvian Lexicon.* Lexica Anatolica Volume 2, Chapel Hill, N.C., 1993

Melchert, *AHPh.* = H. Craig Melchert, *Anatolian Historical Phonology*, Amsterdam-Atlanta, GA 1994. Leiden Studies in Indo-European 3

Messing, *SSP* = Gordon M. Messing, *Selected Studies in Indo-European Phonology*,

HSCPh. Vol. LVI-LVII, 1947, 161 ff

MSS = Münchener Studien zur Sprachwissenschaft

NTS = Norsk Tidsskrift for Sprogvidenskap

Nussbaum, *Head and Horn* = Nussbaum, A. J., *Head and Horn in Indo-European*, Berlin.New York, 1986

Oettinger, *Stammbildung* = N. Oettinger, *Die Stammbildung des hethitischen Verbums* (Erlanger Beiträge zur Sprach- und Kultur-wissenschaft Bd. 64), Nürnberg, 1979

OrNS = Orientalia, Nova Series, Roma

PBB = Beiträge zur Geschichte der deutschen Sprache und Literatur

Pedersen, *Hittitisch* = Holger Pedersen, *Hittitisch und die anderen indoeuropäischen Sprachen*, Copenhagen, 1938

Pedersen, *VKG* = Holger Pedersen, *Vergleichende Grammatik der Keltischen Sprachen*, Bd. I, 1909, Bd. 2, 1913, Göttingen

Peters, *Untersuchungen* = M. Peters, *Untersuchungen zur Vertretung der indogermanischen Laryngale im Griechischen*, Wien, 1980

Phonological Reconstruction = Phonological Reconstruction. Problems and Methods, eds. M. Dominicy and J. Dor, Bruxelles, 1988. Belgian Journal of Linguistics 3.

PICL 7 = *Proceedings of the VIIth International Congress of Linguists*, London, 1952 [1956]

PICL 8 = *Proceedings of the VIIIth International Congress of Linguists*, Oslo, 1957 [1958]

PICL 11 = *Proceedings of the XIth Congress of Linguists*, Bologna, 1972 [1974], 2 vols.

PICL 13 = *Proceedings of the XIIIth International Congress of Linguists*, Tokyo, 1982 [1983]

Pinault, *Tokharien* = G.-J. Pinault, *Tokharien.* Lalies, Actes des sessions de linguistique et de littérature 7, Paris, 1989, 1-224.

Pokorny, *IEW* = Julius Pokorny, *Indogermanisches etymologisches Wörterbuch*, Bd. I. Bern, München

Polomé, Reflexes of Laryngeals in Indo-Iranian = Edgar Polomé, Reflexes of Laryngeals in Indo-Iranian with special reference to the problem of the voiceless aspirates. *Saga og språk. Studies in Languages and Literature*, 1972, 233 ff.

Pratidānam = *Pratidānam. Indian, Iranian and Indo-European Studies presented to F.B.J. Kuiper on his sixtieth Birthday* (Janua Linguarum Studia Memoriae Nicolai Van Wijk Dedicata, Series Maior 34, Mouton 1969).

Puhvel, *HED* = Jaan Puhvel, *Hittite etymological Dictionary*, Berlin.New York, Vol. 1-2, 1984, Vol. 3, 1991

Puhvel, *Laryngeals* = Jaan Puhvel, *Laryngeals and the Indo-European Verb*, University of California Publications in Linguistics 1960

RBPhH = *Revue Belge de Philologie et d'Histoire*

REArmNS = *Revue des Études Arméniennes, Nouvelle Série*, Paris

RHA = *Revue Hittite et Asianique*, Paris

RL = *Ricerche linguistiche. Bolletino semestrale dell'Istituto di Glottologia dell'Università di Roma*

RV = *Rig Veda*

Schmidt, *Pluralbildungen* = Schmidt, J., *Die Pluralbildungen der indogermanischen Neutra*, 1889, 227ff.

Schmitt-Brandt, *Vokalsystem* = Robert Schmitt-Brandt, *Die Entwicklung des indogermanischen Vokalsystems*, Heidelberg, 1967

Schwyzer, *GrGr.* = Eduard Schwyzer, *Griechische Grammatik*, Erster Band, Handbuch der Altertumswissenschaft, 2. Abt., 1. Reihe, 1. Band, München

Sprache = *Die Sprache. Zeitschrift für Sprachwissenschaft*, Wien

Stang, *VerglGramm.* = Christian Stang, *Vergleichende Grammatik der baltischen Sprachen*, Oslo, 1966

StBoT = *Studien zu den Bogazköy-Texten*, hrsg. von der Kommission für den alten Orient der Akademie der Wissenschaften und der Literatur, Wiesbaden

Studia Indoeuropejskie = *Studia Indoeuropejskie/Études Indo-Européennes. Ioanni Safarewicz septuagenario ab amicis collegis sodalibus animo oblatum gratissimo*, 1974

Studies ArchAHill = *Linguistic and Literary Studies in Honor of Archibald A. Hill*, The Hague, 1978

Studies in Memory of Warren Cowgill = *Studies in Memory of Warren Cowgill* (1929-1985) Papers from the Fourth East Coast Indo-European Conference, ed. C. Watkins, Berlin 1987

Studies Palmer = *Studies in Greek, Italic, and Indo-European Linguistics Offered to L.R. Palmer*, Innsbruck, 1976

Sturtevant, *CG* = Edgar H. Sturtevant and Adelaide Hahn, *A Comparative Grammar of the Hittite Language*, New Haven, 1951

Sturtevant, *IHL* = Edgar H. Sturtevant, *The Indo-Hittite Laryngeals*, Baltimore, 1942

SymbGramm. = *Symbolae Grammaticae in Honorem Ioannis Rozwadowski I*, Krakow, 1927

Symbolae Kuryłowicz = *Symbolae linguisticae in honorem Georgii Kuryłowicz*, Wrocław 1965. Polska Akademia Nauk. Prace Komisji Językoznawstwa Nr. 5

Szemerényi, *Einführung* = Oswald Szemerényi, *Einführung in die vergleichende Sprachwissenschaft*^{3}, Darmstadt, 1989

Szemerényi, *Syncope* = Oswald Szemerényi, *Syncope in Greek and Indo-European and the Nature of Indo-European Accent*, Naples, 1964

The New Sound of Indo-European = *The New Sound of Indo-European. Essays in Phonological Reconstruction*, ed. Th. Vennemann. Trends in Linguistics. Studies and Monographs 41, Berlin.New York, 1989

TIES = *Tocharian and Indo-European Studies*, Reykjavík

Tischler, *HEG* = Johann Tischler, *Hethitisches etymologisches Glossar*, Innsbruck, 1977-

To Honor Roman Jakobson = *To Honor Roman Jakobson* (Janua Linguarum Studia Memoriae Nicolai Van Wijk Dedicata. Series Maior XXXI-XXXIII), Mouton, 1967

TPS = *Transactions of the Philological Society*

VJA = *Voprosy Jazykoznanija*

VMU = *Vestnik Moskovskogo Universiteta*

Watkins, *IdgGr*. III/1 = Calvert Watkins, *Indogermanische Grammatik*, Bd. III/1, *Geschichte der indogermanischen Verbalflexion*, Heidelberg, 1969

ZCP = *Zeitschrift für celtische Philologie*

ZPSK = *Zeitschrift für Phonetik, Sprachwissenschaft und Kommunikationsforschung*, Berlin

Note on the use of symbols

The notations for the ‘laryngeals’ in this work are the following ones:

$*H_1$ = a neutral, non-colouring ‘laryngeal’
(phonetically perhaps a voiceless dorso-palatal fricative [*x*’].
$*H_2$ = an *a*-colouring ‘laryngeal’ (phonetically
perhaps a voiceless velar fricative [*x*].
$*H_3$ = an *o*-colouring ‘laryngeal’ (phonetically
perhaps a rounded velar fricative [x^w].

The corresponding voiced phonemes are written
$*\underset{\cdot}{H}_1$ $*\underset{\cdot}{H}_2$, $*\underset{\cdot}{H}_3$.
$*H$ = an unspecified ‘laryngeal’.

Kuryłowicz, *ÉI*, 27 ff., cf. *Apophonie*, § 19, uses the following symbols:

$*\underset{\frown}{\text{ə}}_1$ = a neutral, non-colouring ‘laryngeal’.
$*\underset{\frown}{\text{ə}}_2$ = an *a*-colouring ‘laryngeal’.
$*\underset{\frown}{\text{ə}}_4$ = an *a*-colouring ‘laryngeal’ which has disappeared in Anatolian.
$*\underset{\frown}{\text{ə}}_3$ = an *o*-colouring ‘laryngeal’. (In *Studies Palmer*, 127 ff., Kuryłowicz regards $*\underset{\frown}{\text{ə}}_3$ as the voiced partner of $*\underset{\frown}{\text{ə}}_2$).

Sturtevant, *IHL*, § 11 f., uses the following symbols:

[’] = a glottal stop with fronted timbre (= Kuryłowicz’s $*\underset{\frown}{\text{ə}}_1$).
[’̣] = a glottal stop with velar timbre (= Kuryłowicz’s $*\underset{\frown}{\text{ə}}_4$).
[*x*] =a voiceless velar spirant (= Kuryłowicz’s $*\underset{\frown}{\text{ə}}_2$).
[γ] = a voiced velar spirant (= Kuryłowicz’s $*\underset{\frown}{\text{ə}}_3$).

In Sturtevant’s *CG*, § 55, [’̣] is written *h*.

American 'laryngealists' frequently use de Saussure's and Møller's symbols *E, A, O*. The *o*-colouring 'laryngeal' is written A^w or H^w by Martinet cf. also Puhvel, *EvfL*, p. 92. Mayrhofer, *IdgGr.* 1, 121 f., writes h_1 h_2, h_3, and *H* (= any 'laryngeal').

I

General observations on the 'Laryngeal Theory'

§§ 1-3 Introduction

§ 1 To make it easier for the student to follow our presentation of the different aspects of the 'Laryngeal Theory', we will begin by giving a summary of the earlier predominant, traditional views on the Indo-European vowel system as we find them in the works of scholars like Hübschmann (*Das indogermanische Vokalsystem*, 1885), Brugmann (*Grdr.* I, 1), Hirt (*IdgGr.* 2) and others.

§ 2 With the exception of a few minor moot points, the 'classical' doctrine assumes the following vowel-sounds for the parent Indo-European language: (short) **a*, **o*, **e*, **i*, **u*, *ə, and (long) **ā*, **ō*, **ē*, **ī* and **ū*; *ə, arising from the weakening of an 'original' long vowel,[1] **ā*, **ō* or **ē*, is called 'Schwa indogermanicum'. Schwa appears in Indo-Iranian as *i*, in Greek frequently as *e*, *a*, *o* ; in all other languages it has fallen together with IE **ă*. Diphthongs: (short) **ai*, **oi*, **ei*, **au*, **ou*, **eu*, and (long) **āi*, **ōi*, **ēi*, **āu*, **ōu* and **ēu*. Syllabic liquids and nasals: (short) **ṛ*, **ḷ*, **ṃ*, **ṇ*, and (long) **ṝ*, **ḹ*, **ṃ̄* and **ṇ̄*.

§ 3 The parent Indo-European language had the following ablaut system (including short vocalic and long vocalic ablaut series)[2]:

---

[1] i.e. a long vowel (**ā*, **ō* or **ē*) that does not come from a short vowel (**a*, **o* or **e*) by lengthening, see Hirt, *IdgGr.* 2, § 65.

[2] Formations involving the lengthened grade are left out of consideration here. See, however, § 46 below.

Short vocalic ablaut series

	normal grade			**zero grade**
a)	*e	—	*o	*zero*
Gk.	*pélomai*		*pólos*	*épleto*
	‘become’		‘axis’	

b) The full grade vowel *e/o also occurs in combinations with semivowels (*i, *u), liquids (*r, *l) and nasals (*m, *n):

	normal grade			**zero grade**
	*ei	—	*oi	*i
Gk.	*leípō*		*léloipa*	*élipon*
	‘leave’			
	*eu	—	*ou	*u
Goth.	*biuda*		*bauþ*	*budum*
	‘bid’			
	*er	—	*or	*r
Goth.	*baira*		*bar*	*baurans*
	‘carry’			
			etc.	

c) The *a/o-series. This ablaut, of rare occurrence in the parent language, remains disputed, cf. Hirt, *IdgGr*. 2, § 190.

	normal grade			**zero grade**
	*a	—	*o	
Gk.	*ágō* ‘lead’		*ógmos* ‘furrow’	—

Remark 1: For a different, more plausible etymological analysis of Gk. *ógmos* see below § 26, n. 25.

d) The *a/o*-series in combinations with a semi-vowel:

normal grade			zero grade
*ai	—	*oi	*i
Lat. *aemidus* 'swollen'		Gk. *oîdma* 'swell(ing)'	—
Gk. *aíthō* 'kindle'		—	*itharós* 'cheerful'

Remark 2: Hirt, *IdgGr.* 2, § 54, assumes an ablaut * *ó* — *zero* for the parent language. *ó denotes an *o*-vowel not alternating with *e*, cf. IE *ók^w- in Gk. *ósse* 'the two eyes' vis-à-vis Skt. *kṣaṇa-* 'instant, moment'. Some scholars deny the existence of this *ó*, see e.g. Pedersen, *KZ* 36, 86 ff.

Long vocalic ablaut series

	normal grade			zero grade
e)	*ē	—	*ō	*ə
	Lat. *fēcī*		Goth. *doms* 'judgement'	Lat. *factus*
f)	*ā	—	*ō	*ə
	Gk. (Dor.) *phāmí* 'say'		*phōnḗ* 'voice'	*phásis* 'utterance'
	Lat. *fāma* 'saying'			

(The ablaut *ā — *ō remains disputed, see Hirt, *IdgGr*. 2, § 191)

g)
Lat. *dōnum* 'a gift' *datus*

§§ 4-9 Main features of the 'Laryngeal Theory'

§ 4 As the brief description in this section will show, the traditional views on the Indo-European vowel and ablaut systems were radically altered by the introduction of the so-called 'Laryngeal Theory'. A more detailed justification of the theory itself will be given below in Chapter II.

§ 5 According to the 'Laryngeal Theory', the source of the 'original' long vowels _*ā_, _*ō_, _*ē_ is to be found in a compensatory lengthening caused by the loss of a consonant standing (1) between a non-long vowel[3] and another consonant, or (2) in absolutely final position after a non-long vowel, cf. the following formulas: (1) _*-eH-C_ > _*-_$\bar{e}^{x}$_-C_, and (2) _*-eH#_ > _*-_$\bar{e}^{x}$_#_. (_H_ denotes a consonant which may have been a laryngeal, e.g. _h_, a dorsal fricative, i.e. an _ach-_ or _ich_-Laut, or a pharyngeal fricative; for details see § 95 below). This type of phonetic change is known from many languages. The following example may be quoted from Greek: IE _*esmi_ 'I am' (cf. Hitt. _esmi_) > _*ehmi_ > Att. _ẹmi_ (_eimí_). For a similar development in Latin, cf. _*ayesnos_ > _aēnus_ 'of copper'. A further example can be found in Eng. _daughter_, i.e. /do:tə/, cf. Germ. _Tochter_. (In OIcel. _dóttir_ both the vowel and the following _t_ have been lengthened).

Similarly, the long resonants _*ī_, _*ū_, _*ṝ_, _*ḹ_, _*ṃ̄_ and _*ṇ̄_ are interpreted as deriving from sequences containing a syllabic resonant plus a following (preconsonantal) _*H_, cf. IE _*bhū-tó-_ (Skt. _bhū-tá-_, verbal adjective of _bhávati_ 'becomes') < _*bhuH-tó-_, or IE _*pḹ-nó-_ 'full' (Skt. _pūrṇá-_, Goth. _fulls_, Lith. _pìlnas_) < _*pḷH-nó-_. The verbal adjective seen in Skt. _pūrṇá-_ derives from a verbal stem whose different forms can be reconstructed as (full grade) _*pélH-_ > _*pélə-_ (Skt. _párī-man_ 'plenty') ~ _*pléH-_ > _*plē-_ (Skt. aor. _á-prā-t_, Lat. _-plēre_, _plēnus_), and (zero grade) _*pḷH-_ > _*pḹ-_.

---

[3] i.e. a short vowel if the system at that time had quantitative oppositions; if not, a vowel without phonemic quantity. It should be noted in this connection that, according to St. R. Anderson, _Linguistic Inquiry_ 12, 1981, 561: 'Apparently, compensatory lengthening does not arise unless a language already has distinctively long vowels and/or diphthongs. These elements may have arisen from sequences of simple vowels ...; from the loss of intervocalic consonants ...; or from some other source; but apparently languages do not develop a _new_ length contrast solely through the operation of compensatory lengthening.' For a detailed discussion of compensatory lengthenings in a wide range of languages see B. de Chene and St. R. Anderson, Compensatory Lengthening, _Lg._ 55, 1979, pp. 505-535 (esp. p. 517ff.).

§ 6 Further, it is generally agreed that an early form of the parent IE language possessed more than *one* such 'laryngeal' consonant. These consonants have later been lost, however, in most of the non-Anatolian IE languages. Whereas some of the supposed 'laryngeals' undoubtedly survived in the Anatolian consonants *h, hh*, other similar sounds must have disappeared early, also in this branch of Indo-European.

§ 7 Owing to their particular phonetic properties some of these 'laryngeal' consonants exercised an assimilatory influence on immediately preceding or following vowels. This type of assimilation of a vowel to a consonant is a well-known linguistic phenomenon. In Gothic **u* before *h*, h^w, and *r* becomes an open *o*-sound written *au*, cf. *dauhtar* vis-à-vis Skt. *duhitár-*. Similarly, IE **i* and **e*, which otherwise develop into *i* in Gothic, become an open *e*-sound, written *ai*, before the same consonants, cf. e.g. *saih*^{w}*a* 'see': OHG *sihu*. It is well known that in Russian the pronunciation of the various vowels differs considerably depending on whether they stand between palatalised or non-palatalised consonants.

In its commonly accepted form the 'Laryngeal Theory' assumes the existence in Early Indo-European of (at least) three 'laryngeal' consonants which we write $*H_1$ $*H_2$, $*H_3$. Other frequently used notations are *ə̥$_1$, *ə̥$_2$, *ə̥$_3$, or $*h_1$, $*h_2$, $*h_3$, see above *Note on the use of symbols*. The first of these consonants, which may have been a laryngeal (e.g. *h*), or a dorso-palatal fricative (an *ich*-Laut), had no colouring effect on neighbouring vowels. The second, perhaps an *ach*-Laut involving a retraction of the body of the tongue, changed a neighbouring vowel to *a*, and the third, possibly a rounded *ach*-Laut corresponding to Goth. h^w, changed a neighbouring vowel to *o*.

§ 8 Thus, a wholly new interpretation of the oldest IE ablaut system is made possible by the introduction of the 'Laryngeal Theory'. The many different ablaut series described above (§ 3) can now be reduced to *one* original series only, i.e. **e* — **o* — *zero*. (The lengthened grade vowels **ē* — **ō* are left out of consideration here).

The so-called long vocalic ablaut series are interpreted as going back to the original series *_e_ — *_o_ — _zero_ plus a following *H:

*eH_1 — *oH_1 — *$\underset{.}{H}_1$ > *$\bar{e}$ — *$\bar{o}$ — *ə
*eH_2 — *oH_2 — *$\underset{.}{H}_2$ > *$\bar{a}$ — *$\bar{a}$ (or *$\bar{o}$?)[4] — *ə
*eH_3 — *oH_3 — *$\underset{.}{H}_3$ > *$\bar{o}$(— *$\bar{o}$) — *ə

As can be seen, these ablaut series correspond formally to those occurring in combinations with semi-vowels, liquids or nasals:

*_ei_ — *_oi_ — *_i_
*_eu_ — *_ou_ — *_u_
*_er_ — *_or_ — *_ṛ_
*_em_ — *_om_ — *_m̥_
etc.

It is quite uncertain, however, whether *$\underset{.}{H}_1$, *$\underset{.}{H}_2$ and *$\underset{.}{H}_3$ were syllabic consonants at any stage. On the contrary, they may have contained an anaptyctic vowel. For this particular problem, see § 84 ff. below.

All the following short vocalic ablaut series go back to combinations of the vowels *_e_ — *_o_ with an immediately preceding 'laryngeal':

*H_1e — *H_1o > *_e_ — *_o_
*H_2e — *H_2o > *_a_ — *_a_ (or *_o_?)[5]
*H_3e — *H_3o > *_o_ — *_o_

Remark: A zero grade form like Skt. _kṣaṇa-_ (: full grade *H_3ek^w- seen in Gk. _ósse_, cf. § 3, _Remark_ 2) represents *H_3k^w-; initially, preconsonantal 'laryngeals' have been lost in most of the non-Anatolian IE languages with the exception of Greek and Armenian. See §§ 66 ff. below.

§ 9 It is possible that an early form of the parent IE language had a one-vowel system (cf. Benveniste, _Origines_, 149, Hjelmslev, _Studi Baltici_ 6,

---

[4] For a discussion of the reflex of *oH_2, see § 40 below.

[5] See § 26 below.

p. 51). 'Laryngealists' subscribing to this view usually denote the supposed original vowel by the symbol *e*. For languages with minimal vowel systems (zero or one vowel), the student is referred to the instructive discussions by W. Sidney Allen, *Lingua* 13, 111 ff., A.H. Kuipers, *Pratidānam*, 68 ff., and A. Martinet, Réflexions sur le vocalisme de l'indo-européen commun, *Homenaje a Antonio Tovar*, 1972, 301ff.

According to Martinet, *PICL* 8, 145, it cannot, at any rate, be doubted that

> 'l'indo-européen pré-apophonique ait été une langue où un phonème vocalique déterminé, celui que nous noterions *e* par tradition, jouissait d'une prépondérance statistique écrasante, et que c'est en fonction des avatars de ce phonème que s'est effectuée la réorganisation post-apophonique du système de la langue'.

See also Martinet, *Économie*, 217, n. 15, and J. Safarewicz, *Bulletin de la société polonaise de linguistique*, fasc. 29, 176.[6]

§ 9 **a**. Regarding the much debated question whether or not there existed an [*a*]-vowel in the parent IE language we choose to adopt Martinet's conclusions (in *Homenaje a Antonio Tovar*, 304):

'Meillet avait bien vu que, position initiale mise à part, *a* n'apparaissait guère que dans le vocabulaire expressif et familier, c'est-à-dire dans des mots récents ou de forme instable. De cela, il ne faudrait pas conclure qu'il y a eu une forme de l'indo-européen commun où [a] n'existait pas. Il y a eu une période où [a] était une des réalisations du phonème vocalique unique et, selon toute vraisemblance, la réalisation la plus normale. Ce n'est qu'à partir du moment où la voyelle s'est scindée en /æ/ et en /å/ ouvrant la voie jusqu'aux /e/ et /o/ fermés du grec attique, qu'emprunts, formes expressives, onomatopées diverses se sont réalisés avec une voyelle ouverte que nous retrouvons, dans les langues attestées, sous la forme d'un /a/, phonème qu'il faut, dès avant le début de toute diaspora connue, poser comme distinct au moins de /e/.'[7]

---

[6] However, the 'Laryngeal Theory' does not necessarily imply that Early Indo-European must be regarded as a univocalic language. According to E.G. Pulleyblank, *Word* 21, 86ff., the parent language may have had a two-term close—open contrast which we can write as ə — *a*; at a later stage, when other vowels had arisen, these phonemes may have fallen together in the sound we write *e*. See now also Pulleyblank, *JIES* 21, 1993, 63ff. I do not fully understand Kuryłowicz's analysis, Phonologisches zum indogermanischen *a*-Vokalismus (*Studies Palmer*, 127ff.), according to which [*a*] should be considered a combinatory variant of /o/ in Proto-Indo-European.

Remark: For IE **sawso-* 'dry' see N. Berg and F.O. Lindeman, The Etymology of Greek *aûos* and Od. 19.327 *austaléos*: Homeric Metrics and Linguistics—a Question of Priority, *Glotta* 70, 1992, 181-196. Eichner, *Laryngaltheorie*, 132f., adduces the following examples as evidence for a non-'laryngeal' */a/: **nā̆s-* 'nose' (Lith. *nósis*, Lat. *nāris*, etc.), **kā̆rH-* 'proclaim' (cf. Skt. *kārú-* 'singer' and Gk. *kêruks* 'herold'), **Hyag'-* 'worship' (Skt. *yájati* 'worships', *yajñá-* 'worship' = Gk. *hagnós* 'hallowed, holy'), *H_2*wap-* 'hurt' (Hitt. *huwapzi* 'treats badly, hurts', *huwappa-* 'evil, bad'), **kwas-* 'kiss' (Hitt. *kuwaszi* 'kisses'). These examples are not all equally convincing, however, see Lindeman, *HS* 102, 277, who—referring to Stang (*Das slavische und baltische Verbum*, 39ff.), and R. Hiersche (*IF* LXVIII, 149ff.) for the possible existence in Indo-European of primary *o*-grade presents of an intensive-iterative nature—thinks that Hitt. *huwapzi* and *kuwaszi* might belong here (i.e. *H_2*wop-ti* and **k'wos-ti*, cf. Gk. *kunéō* < **kune(s)ō* probably representing a refashioned athematic **kunés-mi* to a stem **k'wes-*). For the verb stem meaning 'worship' see below § 25 *Remark*.

§§ 10-14 Ferdinand de Saussure

§ 10 As the analysis of the IE vocalism made by Ferdinand de Saussure in his famous *Mémoire sur le système primitif des voyelles dans les langues indo-européennes* (Leipzig 1879) constitutes the basis of the 'Laryngeal Theory', it seems appropriate to give a brief account of de Saussure's analyses at this point.[8]

---

[7] A.R. Bomhard, *Festschrift Szemerényi* I, 128, reconstructs the vowel system of Pre-Indo-European as **ā̆*, **ī̆*, **ū̆*, and assumes that stressed **á* 'was not changed to **e* in the neighborhood of the laryngeals *ə̯$_2$ and *ə̯$_4$ (Sturtevant's *x* and *h* respectively)'.

[8] Cf. Szemerényi, La theorie des laryngales de Saussure à Kurylowicz et à Benveniste, Essai de réévaluation, *BSL* LXVIII, 1-25; Mayrhofer, *Nach hundert Jahren. Ferdinand de Saussures Frühwerk und seine Rezeption durch die heutige Indogermanistik*, 1981 (Sitzungsberichte der Heidelberger Akademie der Wissenschaften. Philosophisch-historische Klasse). Cf. Gmür, Remo, Das Schicksal von F. de Saussures

§ 11 It was the following considerations that led de Saussure, op. cit. 136 (= _Recueil des Publications scientifiques de F. de Saussure,_ 128), to the conclusion that 'original' *_ā_, *_ō_, *_ē_ of Indo-European could not always have been simple long vowels. In those cases where other verbal roots show regular normal grade forms in *a_1_i_, *a_1_u_, *a_1_r_, *a_1_m_, etc. (a_1 = Brugmann's *_e_), roots of the type seen in Gk. _stā-_ 'stand' always display a _long_ vowel. By assuming that the _ā_ in Gk. (Dor.) _stā́mōn_ 'warp' goes back to an earlier diphthong, de Saussure could interpret the relationship between Gk. _stā́mōn_ and _stătós_ as corresponding to that between Skt. _jéman-_ 'victorious' (_e_ < _ai_ by monophthongization) and _jitá-_. In other words, the underlying structure of roots ending in a long vowel (*_stā-_, etc.) would originally seem to have been identical to that found in roots ending in a diphthong. De Saussure takes Gk. _stā́(-mōn)_ and _stă(-tós)_ to reflect *_st_a_1_A-_ and *_stA-_, respectively. Whereas *a_1 is the original vowel of all verbal roots, *_A_ can be regarded as the second element of a diphthong, i.e. as a 'coefficient sonantique', like the elements *_i_, *_u_, *_r_, *_l_, *_m_ and *_n_ in roots of the type *_k̓ei-_ 'lie', *_g̓heu-_ 'pour', *_bher-_ 'carry'. Full grade *-a_1_A-_ is to zero grade *-_A-_ as *-a_1_i-_ is to *-_i-_, or *-a_1_n-_ to *-_n̥-_. The combination *-a_1 + _A-_ yields *-_ā-_ at a later stage.

According to de Saussure, _dō-_ (in the Greek present _dídōmi_ 'give') and _do-_ (in the Gk. ptc. _dotós_) presuppose *_d_a_1_Q̬-_ and *_dQ̬-_, respectively. The symbol *_Q̬_ denotes a second 'coefficient sonantique'.

Postulating that the old ablaut alternation *a_1/a_2 (= *_e_/_o_) could also occur in the position before the coefficients *_A_ and *_Q̬_, de Saussure assumes the following phonetic developments (op.cit., 138 f., _Rec_, 130 f.):

> *a_1_A_ > *_ā_ (Gk.Dor. _hístāmi_)
> *a_2_A_ > *_ō_ (Gk. _bōmós_ 'stand; altar', from the root _bā-_)
> *a_1_Q̬_ > *_ō_ (Gk. _dídōmi_)
> *a_2_Q̬_ > *_ō_ (possibly in Gk. _dôron_ 'a gift', op. cit., 139, _Rec_, 131).

'Mémoire'. Eine Rezeptionsgeschichte. Universität Bern, _Arbeitspapier_ 21, 1986.

§ 12 Besides roots like _*stā-_ ‘stand’ (< _*sta$_1$A-_) and _*dō-_ ‘give’ (< _*da$_1$O̬-_), there is, however, also the type ending in _*-ē-_, e.g. _*dhē-_ ‘put’ attested by Gk. _títhēmi_, Skt. _dhā-_, Lith. _dė́ti_, etc. De Saussure did not give any convincing explanation of the origin of this type in _*-ē-_. He suggested (op. cit., 141 f., _Rec_, 133 f.) that the _*-ē-_ of _*dhē-_ might reflect _*-a$_1$ + A-_, i.e. the same combination that had given _*ā_ in his theory. He was, however, unable to state the exact conditions under which the different developments (partly into _*ē_, partly into _*ā_) of the combination _*-a$_1$ + A-_ had taken place.

§ 13 According to de Saussure (op. cit., 239 ff., _Rec_, 231 ff.), _*ī_, _*ū_, and the so-called long syllabic liquids and nasals, go back to earlier sequences of _*i_, _*u_, or a liquid or a nasal followed by the ‘coefficient sonantique’ _*A_. Again, it is on morphologic evidence that de Saussure bases his conclusions. In formations like Skt. _róditi_ ‘weeps’: _rudimás_, or _skambhitum_ ‘to prop’: _skabhitá-_ the plural form and the verbal adjective show the normal expulsion of the vowel _*a$_1$_. Structurally, the relationship between the infinitive _pavitum_ and the verbal adjective _pūtá-_ (from _punā́ti_, _pávate_ ‘cleanses’) corresponds to that between _skambhitum_ and _skabhitá-_. On the strength of this comparison, de Saussure concluded that the _-ū-_ of _pū-tá-_ must contain _pavi- minus -a-_. As he points out, if Skt. _pavi-_ comes from _*pa$_1$wA-_, it follows that Skt. _pū-_ (in _pūtá-_) must be from earlier _*puA-_.

To this example of _pavi-_: _pū-_ there are various exact morphologic parallels in Sanskrit:

cáritum ‘move’:	_cīrṇá-_ (i.e. _*-a$_1$lA-_: _*-l̥A-_)
khánitum ‘dig’:	_khātá-_ (i.e. _*-a$_1$nA-_: _*-n̥A-_)
damitár- ‘a tamer’:	_dāntá-_ (i.e. _*-a$_1$mA-_: _*-m̥A-_).

De Saussure’s analysis (op. cit., Chapter VI, § 14) of the relationship between the 7th and the 9th present classes in Sanskrit is particularly impressive. He posits roots of the shape _*bha$_1$id-_, _*ya$_1$ug-_ for 7th class verbs like _bhinádmi_ ‘split’, _bhindánti_, aor. _ábhet_, and _yunákti_ ‘joins’, _yuñjánti_, perf. _yuyója_. The present is formed—after the expulsion of the radical _a$_1$_—by infixing the syllable _-na$_1$-_ between the two last elements of the reduced root: _bha$_1$id-_: _bhi-na$_1$-d-_, _ya$_1$ug-_: _yu-na$_1$-g-_; weak forms: _bhi-n-d-_, _yu-n-g-_. By assuming that ‘original’ long _ā_ represents _a$_1$A_, de

Saussure could give a corresponding interpretation of the 9th present class. He takes a verb like *punā́ti* 'cleanses', *punánti* to reflect **pu-na*$_1$*-A-*, **pu-n-A-*. The analogical proportion *bhina*$_1$*d-*: *bha*$_1$*id-* = *puna*$_1$*A-*: *x* leads to the reconstruction of a root **pa*$_1$*wA-* which survives e.g. in *pavítra-* 'a means of purification', aorist *á-pāviṣur*. The underlying morphologic structure is the same in both cases: *pa*$_1$*wA-*: *pu-ná*$_1$*-A-* = *bha*$_1$*id-*: *bhi-ná*$_1$*-d-*.

§ 14 On the strength of these analyses de Saussure was able to draw a simple picture of the oldest IE vocalism by positing one original vowel **a*$_1$ and 8 'coefficients sonantiques': **i*, **u*, **r*, **l*, **m*, **n*, **A* and **O̬*. As previously noted, his interpretation of the IE vowel system constitutes the source of the 'Laryngeal Theory'.

The term 'laryngeal', however, was coined by Hermann Møller. Discussing de Saussure's system, Møller rejected the idea that IE **ē* and **ā* had the same origin (**-a*$_1$*A-*) as unconvincing. He correctly stressed the necessity of assuming a third phoneme, **E*, for Indo-European. According to Møller's view, then, the **ē* of **dhē-* 'put' reflects **-a*$_1$*E-*. Thus, the triad **ā*: **ō*: **ē* was convincingly explained as presupposing earlier **a*$_1$*A*: **a*$_1$*O̬*: **a*$_1$*E*.

It should also be pointed out that whereas de Saussure had taken the *a* of e.g. Lat. *ago*, Gk. *ágō* to go back directly to **A*, Møller analysed this *a* as a full grade vowel whose timbre he attributed to a preceding **A*, i.e. **Aá*$_1$*g'-* > **ág'-*. Møller proposed a similar explanation for the *o* of a form like Gk. *ózō* 'smell' (< **O̬a*$_1$*d-*).

Contrary to de Saussure, Møller regarded the elements **E*, **A*, **O̬* as consonants rather than semi-vowels. In *PBB* 7, 492 f., n. 2, he proposed to see in **E*, **A* and **O̬* gutturals of the kind found in Semitic, and later (in his *Vergleichendes indogermanisch-semitisches Wörterbuch*, 1911, p. VI) labelled them *laryngeals*. On the strength of this assumption Møller wanted to prove that Indo-European was genetically related to Semitic (cf. his study *Die Semitisch-Vorindogermanischen Laryngalen Konsonanten*, 1917).

Remark: Several scholars have accepted Møller's hypothesis, cf. e.g. Sweet, *TPS*, 1880-81, 155 ff.; Cuny, *Études prégrammaticales sur le domaine des langues indo-européennes et chamito-sémitiques*, 1924, and *Recherches sur le vocalisme, le* *consonantisme et la formation des racines en 'nostratique', ancêtre de l'indo-européen et du chamito-sémitique*, 1943; Pedersen *IF* 22, 1907/1908, 341 ff. Cf. also K. Oštir, Zum Verhältnis des indogermanischen *x*-Lautes zu den semitischen Kehlkopf-Lauten. Ein Beitrag zur indogermanisch-semitischen Sprachwissenschaft, *Anthropos* 8 (1913), 165 ff. Cf. further B. Rosenkranz. Zur Indo-uralischen Frage, *AION Sezione Linguistica* 7 (1966); V.M. Illič-Svityč, Opyt sravnenija nostratičeskix jazykov, *Slavjanskoe jazykoznanie, 6. meždunarodnyj s''ezd slavistov*, Moskva, 1968, cf. Illič-Svityč, Sootvetstvija smyčnyx v nostratičeskix jazykax, *Etimologija* 1966 and *Problemy lingvogeografii i mežjazykovyx kontaktov*, Moskva, 1968, 304 ff. (401 ff.); B. Čop, Die indouralische Sprachverwandtschaft und die indogermanische Laryngaltheorie, *Slovenska Akademija Znanosti in Umetnosti. Razred za Filološke in Literarne Vede. Razprave* VII, 1970, 183 ff.; A.B. Dogopol'skij, Nostratičeskie korni s sočetaniem lateral'nogo i zvonkogo laringala. *Etimologija* 1970 [1972], 356 ff.; A.R. Bomhard, *Toward Proto-Nostratic. A New Approach.* (Amsterdam Studies in the Theory and History of Linguistic Science IV. Current Issues in Linguistic Theory. Vol. 27) 1984 and M. Kaiser and V. Shevoroshkin, On Indo-European Laryngeals and Vowels, *JIES* 13, 1985, 377 ff.; V. Shevoroshkin, On Laryngeals, *Laryngaltheorie*, 527-546. For a critical discussion see e.g. B. Vine, Indo-European and Nostratic, *IF* 96, 1991, 9-35.

II

On the necessity of recognizing the actual existence of 'laryngeals' in Early Indo-European

§§ 15-19 The ablaut of the disyllabic or 'heavy' bases

§ 15 Ferdinand de Saussure's and Hermann Møller's analyses of the so-called 'original' long vowels **ā*, **ō*, **ē* < **eA*, **eO̬*, **eE*, being based on strictly theoretical-deductive considerations, cannot, of course, serve as proof of the earlier, actual existence of such 'coefficients sonantiques' or laryngeals in the parent Indo-European language. The same objection can be raised against Møller's hypothetical reconstruction of an Indo-European-Semitic proto-language.

§ 16 There is, however, some linguistic evidence that points to the actual existence in Early Indo-European of certain consonants which were later lost in most of the attested dialects. The strongest argument, perhaps, is furnished by the ablaut of the disyllabic or 'heavy' bases, cf. A. Cuny, Indo-Européen et Sémitique, *Revue de Phonétique* 2, 1912, 101 ff. See also Cuny, *Revue des Études Anciennes*, 1909, 278, n. 2.

As is well known, the traditional IE grammar teaches that the neutral vowel (Murmelvokal) called 'Schwa indogermanicum' arose from the weakening of the 'original' long vowels **ā*, **ō*, **ē*, cf. § 2 above. However, Cuny points to the fact that the preconsonantal reduced grade of a 'heavy' base like **sterə-*, **strō-* 'strew' (cf. Skt. *stṛṇā́ti*, Gk. aor. *éstrōsa*) is not **strə-* as might have been expected if *ə had been a vowel: there is no verbal adjective **strə-nó-* > Skt. **striṇá-* (with *ə > *i*, cf. § 2). The attested form is Skt. *stīrṇá-* < **stṝ-nó-* (IE **ṝ* > Skt. *īr*, *ūr*, Lat. *rā*, Gk. *rā*, etc.). The long syllabic resonant in **stṝ-nó-* can only be convincingly accounted for by assuming, with Cuny, that what was left—after the ablaut reduction—of the long final vowel of **strō-* (i.e. *ə) was an element inherently less sonorous than the resonants **r*, **l*, **m* and *n*, so that the form **stṝ-nó-* must be analysed as **stṛə-nó-* containing a *consonantal* element *ə. It is precisely the original presence of a consonantal element after the resonant **r* that explains the *vocalic* form of that same resonant.

§ 17 We find Cuny's way of reasoning conclusive. If *ə must be regarded as a consonant, one should express this fact in one's notation of it. Following Kuryłowicz's example (*ÉI*, 27 ff.), many scholars use the symbol *ə̯ (with the same diacritic as in *i̯*, *u̯*). In this book we will write **H*. See above *Note on the use of symbols*.

§ 18 As the long **ē* of a verbal stem like **plē-* (~ **pelə-*, cf. § 5) 'fill' must be decomposed in a vowel plus a following consonant, i.e. **pleH-* (cf. the verbal adjective Skt. *pūrṇá-* < **pḹ-nó-*), it follows that the original presence of a corresponding consonant can be assumed also in the case of the long **ē* of the root **dhē-* 'put', cf. Gk. *thē-*, etc. (i.e. **dheH-*).

§ 19 According to the *communis opinio* the ablaut of such disyllabic or 'heavy' bases furnishes a powerful argument in favour of the assumption of 'laryngeal' consonants for Early Indo-European, cf. Cowgill, *EvfL*, 144.

§ 19 a. W.F. Wyatt jr., in an article entitled Structural Linguistics and the Laryngeal Theory (*Lg*. 40, 1964, 138 ff.), rejects Cuny's explanation of Skt. *pūrṇá-*, etc. as unconvincing. Wyatt posits a vowel */ə/ (with no consonantal allophones) for Indo-European. Referring to Cowgill's description (*EvfL*, 144) of the syllabic structure of **pl̥ənó-* as *-Cḷ̥XC-* (and not *-ClX̣C-*), he observes: 'This is an important and weighty argument, but it is still far from proving its point, for it rests on phonetic, not phonemic, speculation. If Cowgill's formulas, *-ClX̣C-* and *-CḷXC-*, represented contrasting phonemic sequences, his point would be proved: we should analyze [ṝ] as /rH/. But Cowgill did not intend his formulas to represent different phonemic sequences, but only different phonetic realizations of the same sequence. He explicitly states that the two do not contrast: "It seems unlikely that PIE would have had sequences of the shape *CRḤC* beside *CṚHC*". This means in effect that we do not know which of the two vocalizable elements, /l/, and /H/, was in fact vocalized in sequences of this sort. For if there is no contrast between [*CRḤC*] and [*CṚHC*], lacking a native speaker we know only that a phonemic sequence /CRHC/ occurred. The notion that *CRHC* > [*CṚHC*] > *CṜC* rather than *CRHC* > [*CRḤC*] > *CṜC* derives from the phonetic supposition that the /r/ had to be vocalized in order to yield the attested correspondences. Such phonetic considerations are irrelevant to the phonemic analysis of the original sequence, which was /CRHC/. We need not concern ourselves with the syllabicity of the phonemes involved, for that was automatic; hence the question whether *H* (or *X*) is consonantal or vocalic is irrelevant.'

Wyatt's way of reasoning does not seem conclusive to us. Any realistic form of historical linguistics aiming at the reconstruction of earlier forms should take into account both the phonetic probability of the various sound changes and the existence of allophones which later have undergone phonemically different treatments. Thus, we can reconstruct a voiced allophone of IE */s/ in the position before voiced plosives (*[*ózdos*], Goth. *asts*, Gk. *ózos* 'branch, twig', etc., *[*sízdō*], Lat. *sīdo* 'sit down', *[*mézgō*], Lat. *mergo* 'immerse', etc.). Similarly, in cases like */strHnó-/, */plHnó-/ the development attested in all the IE dialects show that it was /r/, /l/—and not the following sound—that appeared in a syllabic form. See now also N.E. Collinge, *Collectanea linguistica*, 71.

Cuny's interpretation of *ə as a consonant finds some support in the following (see Lindeman, *Sprache* 19, 198 ff.): apparently, initial groups consisting of **y*- + a consonantal resonant + a vowel (i.e. schematically *#*yRV*-) did not occur in Indo-European, see Meillet, *Introduction*, 136. Consequently, if one follows Wyatt and defines *ə as a vowel, one must interpret a form like */ynət(e)r-/, the reduced grade of */yenəter-/ (attested in Greek *einatéres* 'sisters-in-law', Lith. *jéntė* 'wife of the husband's brother'), phonetically as *[*inət(e)r*]; a reflex of such a form is nowhere attested (e.g. Skt. **initar*-). However, Post-Vedic *yātar*- may be explained as reflecting *[*yṇəter*-], the nasal appearing in its vocalic form since it stands between **y*- and a following consonant. (For a repudiation of Beekes' untenable views, *Laryngaltheorie*, 60, 73, according to which the 'laryngeal' could be vocalized in sequences of the type */CRHC/ and *#/HRC-/, see the detailed critical discussion by

Lindeman, *HS* 102, 1989, 270 ff. Beekes simply reiterates his particular views in his *Comparative Indo-European Linguistics. An Introduction*, 1995, 145).

Finally, the thematic aorist in Greek of a *seṭ*-root like *g^w*elə-* 'throw' (Gk. *bállō, béblēka*) is *ébalon* presupposing **é-*g^w*l̥ə-om* with a vocalic *l̥. The **l* appears in its vocalic form as it stands between two consonants. A similar example is Gk. *ékamon* < **-k' m̥ə-om* from the *seṭ*-root seen in Skt. *śamnīte* 'exert one's self', Gk. *kékmēka, kámnō* 'work'. It should be noted that *ébalon, ékamon* contrast with e.g. *é-pl-e-to* = Arm. aorist *ełew* 'became' (IE **é-*k^w*l-e-to*)[9] from the *anit*-root *k^w*el-* (Skt. *car-* 'move', Gk. *pélomai*).

For W.R. Schmalstieg's analyses in *Baltistica* 9, 1973, 7 ff., of Skt. *gīrṇá-, pūrṇá-*, etc, (cf. Schmalstieg, *KZ* 87, 99 ff., *ArchLing*. IX, 135 ff., p. 157),[10]see the critical discussion by Lindeman, *Triple representation*, p. 13, n. 1. Hans Jonsson's criticism (in *The Laryngeal Theory*, 1978) of Cuny's analysis is based on a series of misunderstandings, see Lindeman, *IF* 86, 325.

§§ 20-22 Hittite h

§ 20 Some confirmation for de Saussure's theory came in 1927 when J. Kuryłowicz, in the article, ə indo-européen et ḫ hittite (in *Symbolae Grammaticae in Honorem Ioannis Rozwadowski* I, 95 ff.) could show that Hittite had preserved de Saussure's 'coefficient sonantique' **A*. It should be pointed out, however, that the same discovery was made by A. Cuny in that same *Festschrift* in an article entitled Réflexions sur le type *khrḗ* (*zên*, etc.) et le type *ēkhṓ*, p. 94, n. 1. But whereas Cuny did not quote any examples from Hittite, Kuryłowicz in his article called attention to a series of precise correspondences of the type Hitt. *pahs-* 'protect': Lat. *pāsco* 'drive to pasture', *pāstor* 'a shepherd' (IE **peə̮*$_2$*s-*), Hitt. *hantezzi-* 'first': Lat. *ante* 'before', Gk. *antí* (IE *ə̮$_2$*ent-*), Hitt.

---

[9] See Lindeman, *REArmNS* X, 1973-74, 48.

[10] Recently, Schmalstieg, reiterates his particular teaching concerning monophthongization in the parent language in *The New Sound of Indo-European*, 67ff.

harkis 'white': Gk. *argḗs* 'white', Skt. *árjuna-* 'white' (IE **ə̭$_2$erg'-*). Kuryłowicz further proposed that de Saussure's **A* and **O̬* be written *ə̭$_2$ and *ə̭$_3$, respectively (ibid., 95, n. 2); he wrote Møller's **E* *ə̭$_1$.

Having collected, in a series of shorter articles, more material from Hittite, Kuryłowicz then published a complete 'Laryngeal Theory' in the Chapter *Sur les éléments consonantiques disparus en indo-européen* in his book *ÉI* (1935).

§ 21 The cuneiform system of writing employed by the Hittites offers considerable difficulties for the phonologic interpretation of the Hittite linguistic evidence. In this book, we usually give the Hittite forms in syllabic transcription since different 'readings' may at times be possible.

It should, however, be stressed right at the start that the Hittite consonant *h* is an autonomous phoneme (cf. Polomé, *RBPhH* 39, 557 f., Puhvel, *EvfL*, 87, n. 21). Thus, we may note 'minimal pairs' of the following type: *hanna-* 'grandmother' vs. *anna-* 'mother', *handa* 'accordingly' vs. *anda* 'therein', *harkanzi* 'they hold' vs. *arkanzi* 'they cut up', *tarhanzi* 'they overcome' vs. *taranzi* 'they say', etc. Kronasser's argument, *VLFH*, § 101 ff., that *h* in many cases represents some kind of secondary phonetic parasite in Hittite, has found little following.[11]

---

[11] There is no evidence that Hittite *h* 'was generally unstable, liable to be lost in the spoken language, ...', see Crossland, *TPS*, 1951, 96 (and cf. ibid., n. 2). As Kuryłowicz, *PICL* 8, 222, points out, an alternation of the type seen in *eshar* 'blood' vs. gen. sg. *esnas* (with loss of interconsonantal *h*) is no more surprising than that attested by *harkanzi: harzi* (with loss of interconsonantal *k*). (For the Old Hitt. gen. sg. form *is-ha-na-a-as* see § 102 below). Consequently, we cannot follow Kronasser, who (in *Beiträge zur Indogermanistik und Keltologie, Julius Pokorny gewidmet*, 1967, 45 ff.), suggested that a sequence **uC-* sometimes developed an initial parasitic *h-* in Hittite (*huC-*). Kronasser's examples, like those quoted by Sturtevant, *IHL*, 64, of *huC-* as the regular zero grade of full grade *we-/wa-* are not very convincing. Thus, it is by no means self-evident that e.g. *hurki-* 'wheel' contains the zero grade of the root of *wawarkima-* 'pivot of a door': Puhvel, *HED* 3, 400 (with references), takes *hurki-* to be from an IE theme **Hwer-g-* 'turn', seen in Ved. *vr̥j-* 'twist', *vr̥jiná-* 'curved, crooked'. For the material cited by Sturtevant, cf. the criticism by Polomé, *Mélanges Grégoire* II, 567 ff., *EvfL*, 26, n. 114; see also Zgusta, *AO* 19, 457. It is now commonly held that the IE root **dheH*$_1$- 'put' has survived in Hitt. *ú-wa-te-* 'bring' and *pí(-e)-hu-te-* 'lead away', see C. Watkins, *IdgGr.* III/1, 69, Eichner, *MSS* 31, 55. According to Eichner, 'ein altes Paar **oH*$_1$- oder **ō-dheH*$_1$- 'hersetzen': **H*$_2$*au-dheH*$_1$- 'wegsetzen' wurde im Heth. durch Vorsetzen der

For the equally unfounded assumption that Hitt. *h* in certain cases reflects a palatalisation of IE velars like *k, cf. the critical discussion by Polomé, On the Source of Hittite *h*, *Lg.* 28, 444 ff.[12]

A consonant *h* corresponding to Hitt. *h* is found in Luwian, another Anatolian language, e.g. Luw. *hassa-* 'bone' = Hitt. *hastai*, Luw. *pahur* 'fire' = Hitt. *pahhur*. See Laroche, *DLL*, § 18. Further, the Lycian consonants *χ, q, g* frequently correspond to *h* in Luwian, e.g. Lyc. *χava-* 'a sheep' = Luw. *hawa/i-*, Lyc. *χuga-* 'grandfather' = Luw. *huha-* = Hitt. *huhha-*, Lyc. *χñna-* 'grandmother' = Hitt. *hanna-*, Lyc. *-χa, -ga* = Luw. *-ha* (1 sg. pret. ending). See Laroche, *BSL* 62, p. 60.

The hypothesis that IE *H_2 is continued as *g* in the old Anatolian language called Palaic (Watkins, *Fachtagung* V, 358 ff.), does not find convincing support in the attested material. Despite their very fragmentary state, the meager Palaic remnants nevertheless indicate that the regular Palaic reflex of the IE *a*-colouring 'laryngeal' was *h*(*h*), see Lindeman, *Triple representation*, 18 ff.

Remark: It is possible that Arm. *h-* is in some cases a reflex of an initial IE 'laryngeal' (*H_2 and *H_3), cf. Polomé, *First International Conference on Armenian Linguistics,*

---

produktiven oppositionsbildenden Morpheme *u-* und *pe-* zu *uuate-* und *pehute-* verdeutlicht'; Eichner takes *hu-* (in *pehute-* and in *e-hu* 'come!' < *'go away!') to be from *H_2*au-*, the preform of Lat. *au(ferre)* and OCS *u* in *umyti* 'wash off', etc. Melchert, *AHPh.*, 134, however, posits a preform **ey-*H_2*(e)u* meaning 'go to!' (cf. Skt. *ā-gam-* 'come') with a preverb *H_2*(e)u* 'to', supposedly a variant form of *H_2*o* 'to' seen in the Hitt. *ha-* of *ha-sdwēr* 'branches'. (??) For Hitt. *ha-sdwer* see, however, below § 27. Melchert, ibid., sees the same preverb in *pehute-* 'carry off' which he segments as **pe+hu+te-* where *te-* is the IE verbal root **dhe*H_1*-*. However, according to Melchert, ibid. 134, Hitt. *u-wate-* 'bring' is from **au-wade/a-*, i.e. originally **au-* 'hither' + **wodhéye/o-* 'lead'. (??) Puhvel, *HED* 1-2, 252, takes *ehu* to represent **eyehu(t)*, the regular middle imperative of *iya-* 'go'.

[12] Cf. Crossland, *TPS*, 1951, 103, n. 1; Kammenhuber, *KZ*, 76, 3. Eichner, *Fachtagung* VI, 129, n. 41 (with references), takes Hitt. *ishahru* 'tear' to be from **s* + H_2*ák'ru-* by assimilation of *sh...k* to *sh...h* (: Skt. *áśru* 'tear'). Puhvel, *HED* 1-2, p. 393, posits IE **(s-)*H_2*ak'ru-* ~ **(d-)*H_2*ak'ru-* (with '*d*-mobile'), cf. Gk. *dákru* 'tear'. He thinks that the **r* seen in Armenian *artawsr* 'tear' (< **drak'ur*) and OHG *trahan* (< **drak'nu-*) may reflect a change of *H_2 to **r* comparable to the alternation attested by Hittite *wahnu-* ~ *warnu-* 'burn'.

Proceedings, 1980, 17 ff.; F. Kortlandt, *Studia Caucasica* 5, 9 ff., *AAL* 5, 41 f.; A.R. Bomhard, *Orbis* 25, 231. See also § 25, n. 17, below. Cf. now also J.A.C. Greppin, *Kuryłowicz Memorial Volume* I, 313 ff. Some plausible Armenian examples: *haw* 'bird': Lat. *auis*; *haw* 'grandfather': Hitt. *huhha-*; *han* 'grandmother': Hitt. *hanna-*; *hanem* 'draw out, remove': Hitt. *han-*, *haniya-* 'draw (liquids)', see below § 25. Cf. also Lindeman, *Triple representation*, 17 f. As Arm. *h-* comes from different sources (**p-*, **s-*), the possibility cannot be wholly excluded that *h-* may be of secondary origin at least in some such forms where one could be tempted to interpret it as reflecting a 'laryngeal', e.g. Arm. **hovi-* 'sheep' (in *hovi-w* 'pastor'): Luw. *hawi-* 'sheep' (see below § 27, *Remark* 2). Cf. also Djahukian, *Festschrift K.H. Schmidt*, 14.

E.P. Hamp, *EvfL*, 123 ff., sees a reflex of an IE 'laryngeal' in the Albanian *h-*. However, H.M. Ölberg, *KZ* 86, 1972, 121 ff., has shown that Hamp's etymologies are *ad hoc* constructions that cannot prove a 'laryngeal' origin for Alb. *h-*.

§ 22 The linguistic evidence discussed in this chapter makes it seem extremely plausible that an early form of the parent language had certain consonants, generally called 'laryngeals', which have been lost, at a later stage, in most of the non-Anatolian IE dialects. Some of these 'laryngeals' survive in the Hittite consonants *h, h(h)*, the distribution of which, however, is difficult to explain in several instances.

III

‘Laryngeal’ reflexes found in the various IE languages

§ 23 Preliminary remark

§ 23 The ‘laryngeals’ assumed for the parent language have left many traces, more or less clear, in the different IE dialects. In §§ 5, 7 f. above, we mentioned the effects of the ‘laryngeals’ on a neighbouring *_e_. The IE vowel triad *_ē̆_, *_ā̆_ and *_ō̆_ points to the earlier existence of at least three different ‘laryngeals’: the occurrence of _a_- and _o_-grade in morphologic environments that otherwise show _e_-grade (= the so-called normal grade) may be accounted for by assuming that the ‘laryngeals’ caused not only lengthening, but also colouring of neighbouring vowels. Thus, by supposing that *_e_ was coloured to *_a_ in the vicinity of *H_2, we can take a present like Lat. _ago_, Gk. _ágō_, Skt. _ájati_ (< *_ág'-e/o-_) to go back ultimately to *H_2_ég'-e/o-_, a formation which corresponds exactly to that of *_bhér-e/o-_ ‘carry’ (Lat. _fero_, Gk. _phérō_, Skt. _bhárati_, etc.) and other normal grade presents.[13] Similarly, a formation like Gk. (fut.) _ópsomai_, if derived from *H_3_ék_^{w}_-se/o-_, can be equated with the type _leípsō_ < *_léyk_^{w}_-se/o-_ (fut. of _leípō_). Gk. _dídōmi_ and _hístāmi_ (Dor.) can only be explained as normal _e_-grade presents corresponding to _títhēmi_ (< IE *_dhe_H_1-) if they are analysed as representing earlier *_di-dé_H_3- and *_si-sté_H_2-, respectively. Consequently, Gk. _ópsomai_, _dídōmi_, _hístāmi_ and similar forms constitute powerful structural evidence for the assumption of a non-ablauting **o*-vocalism (< *H_3e-, *-eH_3-) in non-Anatolian IE.[14]

---

[13] See Martinet, _PICL_ 8, 46.

N.E. Collinge, *Collectanea linguistica*, 98, referring to W. Cowgill, adduces another piece of evidence which points in the same direction: since the present is normally characterized by an *e*-grade, the Greek nasal infixing verbs in (sg.) *-nā-* seem to presuppose *-$n\acute{e}H_2$- with an *a*-colouring 'laryngeal', which means that the parent language must have possessed at least two different 'laryngeals', i.e. *H_2 and *H_1, the neutral or non-colouring 'laryngeal' found for example in the stem *$pleH_1$-, cf. the verbal adjective Skt. *pūrṇá-*, Lith. *pìlnas*, etc.

Besides such colouring and lengthening of neighbouring vowels, other important 'laryngeal' reflexes survive in the various IE dialects, a number of which will be examined critically in the present chapter.

§§ 24-32 'Laryngeals' initially in the position before a following syllabic sound

§ 24 In this position the 'laryngeals' are regularly lost (without causing any vowel-lengthening) in the non-Anatolian IE languages.[15]

§ 25 The IE sequence *H_2e- gives *ha-* in Anatolian, but **a-* in non-Anatolian Indo-European, cf. e.g. Hitt. *ha-an-za* 'front' (nom. sg.), dat.loc. *ha-an-ti* (*-i* < **-ei*, see E. Neu, *StBoT* 18, 41, n. 23), abl. *ha-an-ta-a-az* (*StBoT* 26, 49), *ha-an-te-iz-zi-is* 'first' (nom. sg.), Lyc. *χñtawat(i)-* 'ruler, king'[16] = Luw. *ha-an-da-wa-te-en* (acc. sg.) vs. Lat. *ante* 'before', *anterior*, Gk. *antí* 'opposite'; Hitt. *har(k)-* 'hold, have' (pres. 1 sg. *har-mi*, 3 sg. *har-zi*, pret. 1 sg. *har-ku-un*) vs. Lat. *arceō* 'enclose, shut up'; Hitt. *har-ki-is* (nom. sg.) 'white' vs. Gk. *argḗs*,

---

[14] Cf. Martinet, *Word*, 9, 253 ff., *Économie*, 212 ff. The suggestion that the root **dō-* might have an analogical **o*-vocalism (cf. Pedersen, *Hittitisch*, 180, Sturtevant, *Lg*. 16, 276, and n. 9, *IHL*, § 41 c, Ivanov, *VMU* No 2 (1957), 33 f.) has been adequately disposed of by Cowgill, *EvfL*, 145.

[15] For a different, disputable view, see § 32 below.

[16] See Laroche, *BSL* 62, 60; cf. Melchert, *Lycian Lexicon*, 92, *Cuneiform Luvian Lexicon*, 52.

árguros, Lat. *argentum*, Toch. A *ārki*, B *ārkwi* 'white'; Hitt. *had-* 'dry up' (3 sg. *ha-a-ti*) vs. Gk. *ázō* 'dry up'[17], Hitt. *ha-an-na-as* 'grandmother', Lyc. *χñna* (Laroche, *BSL* 53, 191) vs. Lat. *anus* f. 'an old woman', OHG *ana* 'grandmother', Gk. *annís mētròs ḕ patròs mḗtēr* (Hsch.); ; Hitt. *hat-alkesnas* c. '*had*-branch, i.e. hawthorn' < IE **H$_2$ed-* or **H$_2$edh-*, may be identical with OIr. **ad*, gen. sg. *aide*, dat. sg. *aid* 'some kind of tree, probably hawthorn', see C. Watkins, *Linguistica* 33, 1993, 243ff.;[18] Hitt. *han-*, *haniya-* 'draw (liquids)', e.g. *watar hani* 'draws water', if from √*H$_2$en-*, may be cognate with Gk. *án-tlon* 'bilge-water', see for details and references Puhvel, *HED* 3, 77. Arm. *hanem* 'draw out, remove' may belong here, see Sturtevant, *IHL*, 30, Puhvel, ibid. 77, cf. above § 21, *Remark*.

Remark: We may speculate whether the verb stem **yag'-* attested by Ved. *yájati* 'worships', *yajñá-* 'worship', Gk. *hagnós* 'holy' (cf. above § 9 a., *Remark*) may not have been extracted—and later generalized—from an original theme */yH$_2$eg'-/[19] in sequences such as the following: */(H$_1$)é-yH$_2$eg'-e-s/ (augmented 2 sg. ipf.) = phonetically *[*(H$_1$)éyH$_2$ag'es*] (with consonantal *[*y*],[20] according to Sievers-Edgerton's Law): *[*(H$_1$)éyH$_2$ag'es*] would give non-Anatolian IE *[*éyag'es*], by loss of the prevocalic 'laryngeal(s)', a formation that could underlie RV *áyajas* (e.g. III, 17, 2) ; further examples: (2 sg. ipv.) */pró yH$_2$eg'-e/ = phonetically *[*próyH$_2$ag'e*], whence non-Anatolian IE *[*próyag'-e*] which may underlie RV *prá yajā* (III, 17,5), cf. VI, 15, 13 *prá yajatām*, and, with the preverb *ā*, RV I, 40, 4 *ā́ yajāmahe*, VIII, 11, 10 *ā́ yajasva*; compounds like */H$_1$su-yH$_2$ég'-/ > non-Anatolian IE *[*suyág'-*] > RV *su-yáj-* 'schön opfernd' (VIII, 5, 3), cf. */H$_1$su-yH$_2$eg'nó-/ > non-Anatolian IE *[*suyag'nó-*] > RV *su-yajñá-* 'schön opfernd', */deywo-yH$_2$ég'-yo-/ > non-Anatolian IE *[*deywoyág'yo-*] > RV

---

[17] It seems possible that Arm. *hat* 'granum' belongs here, see M. Poetto, *Accademia Nazionale Dei Lincei, Serie* VIII, vol. 31 (1976), 151 ff., who points out that Hitt. *had-* 'in the cult inventories denotes a drying operation performed on the cereals.' (p. 163). For the *h-* of Arm. *hat* see § 21, *Remark* above.

[18] However, the frequent writing *ha-at-tal-* points to IE **-t-*, see Puhvel, *HED* 3, 257, with references, who favours the connection with Hitt. *hatt(a)-* 'to prick'.

[19] */yH$_2$eg'-/ may be analysed as a theme II */yH$_2$-eg'-/ from a root */yeH$_2$-/.

[20] Phonetically, the structure of *[*(H$_1$)éyH$_2$ag'es*], i.e. */(H$_1$)é-yH$_2$eg'-es/, corresponds exactly to that of e.g. 2 sg. inj. *[*wéwk^{w}es*], i.e. */wé-wk^w-es/, (< √*wek^w-* 'speak'), seen in RV *vócas*.

deva-yájya- n. 'Götterverehrung', */pró-yH_2eg'-yu-/ > non-Anatolian IE *[*próyag'yu-*/ > RV *práyajyu-* 'opferfreudig',[21] and also RV *divi-yáj-* 'im Himmel verehrend', *satya-yáj-* 'recht opfernd'.[22]

The RV perfect *ij-é* (1. 3. sg.) may have been created according to the following analogical proportion: *vac-* 'speak' : weak perf. stem *ūc-* = *yaj-* : weak perf. stem *x*; *x* = *īj-*; for the perf. ptc. *ījāná-*, cf. *ūcāná-* (< *vac-*). Similarly, the zero grade seen in Skt. ptc. *iṣṭá-* may be considered an analogical creation (for expected **īṣṭá-*): *vac-* 'speak' : ptc. *uk-tá-*, *vap-* 'strew' : ptc. *up-tá-*, *vas-* 'shine' : ptc. *uṣṭá-*, *vyadh-* 'pierce' : ptc. *viddhá-* = *yaj-* : *x*; *x* = *iṣṭá-*. Finally, with *-íj* in RV *ṛtv-íj* 'zur regelmässigen Zeit opfernd, ministrant' compare *-vídh* in RV *hṛdayā-vídh* 'das Herz verwundend'. This explanation, if accepted, would readily account for the absence of corresponding zero grade forms in the other IE languages.

§ **25 a**. The suggestion that Hitt. *he-* reflects IE *H_2e- is without foundation. Hitt. forms in *he-* lack convincing etymological connections in the other IE languages. Thus, according to Puhvel's interpretation, *HED* 3, 1991, 289, Hitt. *hé-kur*, *hé-gur*, the base-meaning of which seems to be 'rock-sanctuary', is of non-IE origin: referring to Sum. *é.gal* 'big house, palace' (Akk. *ekallu*) which appears in Hurrian as [*h*]*a-i-kal-li*[23] (KBo XXXII 13 II 3) and in West Semitic as Ugar. *hkl*, Hebr. *hēkal*, Puhvel, ibid. 289, proposes that 'Sum. *é.kur* 'mountain house' (name of elevated sanctuaries, such as Enlil's at Nippur; Akk. *ekurru* 'temple') seems to have been transmitted to Hittite (via Hurrian ?) as *hé-kur* or *hé-gur* ...' This convincing explanation authorizes us to bury the various etymological analyses of the Hittite word in question listed in our 1987 edition § 25, *Remark*. Similarly, other Hittite words in initial *he-* (*hi-*) may contain an original *i*-diphthong (or, perhaps, the corresponding zero grade, *H_2i-, etc.). Old Hittite spellings like *hé-ek-ta*, *ha-in-kán-ta* (*StBoT* 5, 54f.; 12, p. 54, n. 22; 18, pp. 41 and 43, and

---

[21] See Mayrhofer, *EWAIA* II, 1994, 393, with references.

[22] These RV compounds which show no lengthening of the (short) final vowel of the first member (as might have been expected according to § 50) speak strongly against the reconstruction **Hyag'*- (with an initial 'laryngeal'), accepted e.g. by Mayrhofer, *EWAIA* II, 1994, 393, with further references.

[23] For the reading [*h*]*a-i-kal-li*, and also, with plene-writing, [*h*]*a-a-i-kal-li*, see p. 37, n. 42, in E. Neu, Mehrsprachighkeit im Alten Orient — Bilinguale Texte als besondere Form sprachlicher Kommunikation, *BAC* 23, 1995, 11-39.

n. 30) seem to indicate that Hitt. *hink-* 'nod, bow, show reverence' contains an old diphthong. (Otherwise Melchert, *StHHPh*, 23 f.). Hitt. *heu-* 'rain', for the ablaut and formation of which cf. E. Neu, *Bono homini donum*, 203 ff., and *hé-en-kán, hi-en-kán* 'fate, pestilence, death' have no clear etymologies. For Hitt. *heu-*, *heaw-* 'rain', *hinik-* 'to rain' see also Lindeman, *Linguistica* 33, 1993, 113ff., and cf. below § 46. See Tischler, *HEG* II, 247 f., for various tentative explanations proposed for Hitt. *henkan*. Cf. also Melchert, *AHPh.*, 144.

§ 26 The treatment of the sequence *H_2o- (with *o < *e by qualitative ablaut) in non-Anatolian Indo-European poses different problems. In Anatolian one would expect *H_2o- to have given *ha-* as *a* is the regular outcome of IE *o in Hittite and the other old Anatolian languages. However, *ha-* is also the regular Hittite reflex of IE *H_2e- (§ 25) and therefore a distinction between *H_2o- and *H_2e- in Hittite is no longer possible. See also below § 40b.

In § 2 above, we mentioned briefly the ablaut **a* — **o* assumed for the parent language by some traditional scholars. This ablaut is also recognized by some 'laryngealists' who believe that *H_2 had no colouring effect on a following (or preceding) **o*. According to these scholars the ablaut **a* — **o* (**ā* — **ō*) reflects an earlier contrast between *H_2e and *H_2o (*-eH_2- and *-oH_2-).[24]

As Kuryłowicz, *Apophonie*, 167 ff., points out, however, the evidence for the supposed ablaut **ă* — **ŏ* is weak. Setting aside uncertain etymologies like Gk. *ógmos* 'furrow' vs. *ágō* 'lead',[25] and cases where the *o*-grade *might* have been formed secondarily to a zero grade (**i*, **u*, **ṛ*, etc.) originally belonging to an *a*-full grade (**ai*, **au*, **ar*, etc.),[26] we are left with only a very limited number of examples whose *a* — *o* alternation remains unexplained: Gk. *ákros, akmḗ* 'point, edge', *akónē*

---

[24] De Saussure, *Mémoire*, 135, Kuryłowicz, *ÉI*, 111 f., Polomé, *RBPhH* 30, 1045, n. 4; Cowgill, *EvfL*, 145 f., R.S.P. Beekes, *Sprache* 18, 117 ff. and *MSS* 34, 17.

[25] Benveniste, *HI*, 107 f., connects Gk. *ógmos* with Hitt. *akkala-* 'furrow'. See now also Puhvel, *HED* I, 23.

[26] Cf. Kuryłowicz, *Apophonie*, 188 f. See also Lindeman, *Triple representation*, 27 f.

'whetstone' vs. *ókris* 'jagged point', Lat. *ocris*, Umbr. *ukar* 'arx, mons', cf. also Gk. *oksús* 'sharp, keen'. As will be seen below (§ 40) the existence of the ablaut **ā* — **ō* is likewise extremely doubtful. Consequently, we will, as a first step, assume that both *H_2e- and *H_2o- (*-eH_2- and *-oH_2) have given *a-(*-ā-) in non-Anatolian Indo-European.[27]

§ 27 It is generally accepted that the sequences *H_3e- and *H_3o (with *o from *e by qualitative ablaut) have given *ha-* in Anatolian, *o- in non-Anatolian Indo-European.[28]

Examples: Luw. (nom. sg.) *ha-a-ú-i-is* 'a sheep', Lyc. *χava-* (see Laroche, *BSL* 62, 60), Hierogl.Luw. *hawa/i-* vs. Lat. *ouis*, Gk. *óis*, Skt. *áviḫ*; Hitt. *ha(-a)-ra-as* 'eagle', (gen. sg.) *ha-ra-na-as* vs. Gk. *órnis*, OHG *aro, aru*, etc.;[29] Hitt. *hastai* 'bone' (*ha-as-ta-(a-)i*), Luw. pl. nom. acc. *ha-(a-)as-sa* vs. Gk. *ostéon*, Lat. *os*, Skt. *ásthi*.[30] Another plausible example is Hitt. *hasdwer* 'twigs, branches' (*ha-as-du-ir, ha-as-du-e-er*) = Gk. *ózos* 'branch', from a preverb *H_3e- plus the zero grade of the root *_sed_- 'sit', see Melchert, _StHHPh_, p. 61, n. 111, and cf. § 66 below.[31] Lat. _ab-oleō_ 'destroy' may come from a verbal root *H_3_el_- which, according to Puhvel, _KZ_ 100, 238ff., _HED_ 3, 14, could underlie also Hitt. _hall̥(a)_- (possibly from IE *H_3_l̥-ne_H_3-), found in _hallanniya_- 'lay waste'. Cf. below § 31.

---

[27] Kuryłowicz, *Apophonie*, 168, assumes a syncretism of IE *e and *o in the vicinity of *H_2. According to him, *H_2 in the sequences *H_2o- and *-oH_2- simply disappeared in the northern languages (Germanic, Baltic and Slavic), whereas *H_2o- and *-oH_2- yielded *a- and *-ā-, respectively, in the southern languages (Celtic, Italic, Greek, Armenian).

[28] Cf. now M. Ofitsch, *HS* 108, 1995, 20ff. IE *H_3 gave Anatolian *zero* according to Eichner, *Sprache* 24, 162, note 77, cf. Mayrhofer, *IdgGr.* 1, 132, n. 141. See, however, § 29 below.

[29] For Lith. *ẽras*, OIr. *irar* which do not presuppose earlier *er-, see Cowgill, *EvfL*, 146, n. 5.

[30] For Luw. *hassa* see Puhvel, *HED* 3, 237, with references. For Celtic *ast- in OCorn. *asen*, W. *as(gwrn)* 'bone', see § 40 a., *Remark* below. Oettinger's reconstruction (*Festschrift Strunk* 217f.) of an IE collective nom. acc. *$H_{2/3}(o)stH_2$-ḗy > Gk.*ostéy*, allegedly surviving in the thematized *osté[y]on*, is unjustified: we only have to cite the Greek reflex of the IE ending *-ṓy in the type *peithṓ* 'persuasion' (cf. the Skt. type *sákhā* 'companion') to see that an IE ending *-ēy would have given Gk. *-ē, not *-ey. See Lejeune, *Phonétique historique* 272f., for a discussion of the Arch. Dor. ending *-ōi*.

Remark 1: Old Hitt. $^{(\text{É})}$_hista_- ($^{(\text{É})}$_hi-is-ta-a-as_) 'a cult building' (see I. Singer, _StBoT_ 27, 112 ff.) may be a loanword from Proto-Hattic according to Kammenhuber, _OrNS_ 41, 292 ff., cf. G. Neumann, _IF_ 91, p. 379. Its IE origin remains disputable at any rate, and E. Neu (oral communication) sees an argument in favour of a non-IE origin in the lack of a complete inflection of _hista_- in Hittite. For the reasons set forth in § 46, Eichner's reconstruction (_Sprache_ 20, 30, n. 30) of an IE preform *H_2_ēstoyó_- for Hitt. _hista_- must be rejected as unconvincing. Puhvel, _HED_ 3, 323 (with references), proposes to take _hista_- (with anaptyctic _i_) from *H_3_stoy-ó_-, a zero grade derivative from *H_3_est-i_- 'bone', seen in Hitt. _hastai_-, and compares Germanic *_staina_- 'stone' (< *H_3_stoy-nó_-)—an etymological proposal that can neither be definitively proved nor disproved, formally.

Remark 2: According to Kortlandt, H_2o and oH_2, _Lingua Posnaniensis_ 23, 128 (cf. also _AAL_ 5, 41 f.) initial *H_2 and *H_3 were lost before IE *_o_, but preserved as _h_ before IE *_e_ in Armenian. Thus, in the case of *H_3 he takes Arm. _hot_ 'odor' to be from IE *H_3_éd-es_- (= Lat. _odor_, old _s_-stem, cf. also Lat. _olet_ 'smells' < *_od_-),[32] and _hoviw_ 'pastor' from *H_3_ewi-pe_H_2- (cf. Lat. _ouis, pastor_), whereas _orb_ 'orphan' is explained as going back to *H_3_orbho-_ (cf. Lat. _orbus_ 'bereft', Gk. _orphanós_ 'orphan')[33], and _ost_ 'branch' to *H_3_osdo-_ (cf. Gk. _ózos_ 'branch, twig', OHG _ast_ 'bough', Hitt. _hasdwer_ 'twigs', cf. above). After the colouring of *_e_ to *_o_ by *H_3, the 'underlying' *H_3_éd-es-_ and *H_3_éwi-_ are supposed to have given *H_3_ód-es-_ and *H_3_ówi-_, respectively, the *_o_ of which is said to have 'differed phonetically' (_AAL._ 5, p. 42) from the *_o_ arising from qualitative ablaut (< *_e_) in Indo-European—a purely _ad hoc_ assumption. (Chronologically, we take the ablaut *_e_ > *_o_ to have occurred later than the colouring of */e/ to *[_a_] or [_o_] by a neighbouring *H_2 or *H_3, see § 40 below.). As comparative IE data that might justify Kortlandt's reconstructions simply do not exist, his way of reasoning must be characterized as wholly circular: an _unexplained_ Armenian contrast between _ho-_ and _o-_ is made the justification of the assumption of a contrast between *H_3_e-_ and *H_3_o-_ in Indo-European, the _only_ vestige of which is the Armenian contrast in question, see _Triple representation_, 18, where reference is also made to the equally unexplained cooccurrence of _ho-_ and _o-_ in _hogi_: _ogi_ 'spirit', mentioned by Meillet, _Esquisse_, 38.

---

[31] According to Watkins, _Sprache_ 20, 11, the suffix seen in Hitt. _hasdwer_ corresponds to that of Arm. _oskr_ 'bone' < *_ostwer_.

[32] The lengthened grade *_ōd_- (< */H_3ēd-/ = *[H_3_ōd_-], cf. § 46 n. 77 below) is attested by Lith. _úosti_ 'smell'. It should be noted that W.P. Schmid, _Festschrift für Herbert Bräuer_, 1986, 457 ff., has shown beyond reasonable doubt that Winter, _Trends in Linguistics_, (Studies and Monographs 4), 1978, 431 ff., was wrong in assuming that the Indo-European sequence of short vowel plus voiced stop was reflected by lengthened vowel plus voiced stop in Baltic and Slavic. O. Poljakov, _Das Problem der balto-slavischen Sprachgemeinschaft_, Heidelberger Publikationen zur Slavistik, Linguistische Reihe, Band 8, 1995, 75f., tries to repudiate W.P. Schmid's criticism of 'Winter's Law', but his argumentation is unconvincing and inconclusive. See also E. Campanile's critical observations, A proposito della Lex Winter, _Miscellanea di studi linguistici in onore di Walter Belardi_, Roma, 1994, 339ff. Referring to my rejection of the Gamkrelidze-Hopper theory (§ 75 below), I find no reason to consider 'lex Winter' a piece of evidence for the assumption of glottalized consonants in Indo-European despite e.g. Kortlandt, _IF_ 83, 1978, 107ff., who proposes to see a direct reflex of IE *_pet'_- (= *_ped_-) 'foot' in Latv. _pę̂ds_ 'footstep', Lith. _pėdà_ 'foot'. See also K. Strunk's critical remarks in _Fachtagung_ VII, 495, with further references.

A. Lubotsky, La loi de Brugmann et *H_3_e-_, _La reconstruction des laryngales_, 129-136, who bases himself on the teaching of Kortlandt, argues—unsuccessfully—that Indo-Iranian evidence demonstrates that the *_o_ of IE *H_3_o_ (< *H_3_e_ by 'laryngeal' colouring) differed phonetically from that of IE *H_3_o_ and *H_2_o_ the *_o_ of which had arisen from *_e_ by qualitative ablaut, see the detailed criticism by Lindeman, _Kratylos_ 37, 60f.[34]

§ 28 In some cases a Hitt. _a-_, unaccompanied by _h-_, corresponds to non-Anatolian IE full grade *_a-_. In order to account for such correspondences, Kuryłowicz, _ÉI_, 75, added to his three 'laryngeals' a fourth, *H_4. The latter, an _a_-colouring 'laryngeal', is supposed to have been lost both in Anatolian and non-Anatolian Indo-European. *H_4 corresponds to Sturtevant's [:] (_IHL_, § 64 f., see _Note on the use of symbols_).

Much of the material for positing IE *H_4 is, however, far from convincing and can be ignored here, cf. the critical discussions by Polomé, _RBPhH_ 30, 1042 ff., Messing, _SSP_, 210 ff., Zgusta, _AO_ 19, 466 ff. The very few plausible examples which involve a correspondence of the type Hittite _a-_ = non-Anatolian IE _*a-_ may be accounted for by positing an originally _voiced a_-colouring 'laryngeal'. This 'laryngeal' will be denoted by the symbol *$\underset{\cdot}{H}_2$ in this book. (The punctum delens denotes voice, cf. Martinet, _Phonetica_ 1, 27). For the voiceless counterpart, *H_2, which seems to be continued in Hittite by _-hh-_ in the position between (written) vowels, see the discussion in § 92 ff. below.

---

[33] According to Puhvel's convincing explanation, _HED_ 3, 182f., Hitt. _harapp-_, _harp-_ meaning 'take in hand and translocate' does not belong here, but reflects IE *_Hér-p-_, cf. theme II *_Hr-ép-_ in Gk. _eréptomai_ 'snatch, grab' (*_Hrép-yo-_).

[34] M. Volkart's discussion and acceptance of Lubotsky's teaching (_Zu Brugmanns Gesetz im Altindischen_, Universität Bern Institut für Sprachwissenschaft Arbeitspapier 33, 1994, 22ff.) reveals a notable lack of knowledge of essential aspects of the 'Laryngeal Theory'.

The following Hittite forms may belong here: _appa_ 'behind; afterwards; back': Gk. _apó_. However, Hitt. _appa_ may be cognate with Gk. _epí_, _*opi_ (in _ópithen_, _ópisthen_ 'behind'), cf. Hitt. _appezzi-_ 'later, last': Gk. _opíssō_ 'backwards, hereafter', see Messing, _SSP_ 210 f., Lohmann, _IF_ 51, 319 ff. E. Neu, _StBoT_ 18, 41, interprets _ap-pé-e-ez-zi-_, etc., as representing _appezzi-_ < _*opei-tyo-_ (rather than _*opi-tyo-_ as in Gk. _opíssō_), cf. _ha-an-te-ez-zi-_ 'foremost' < _*_H_2_ntei-tyo-_ (ibid. p. 41).[35] Hitt. _pai-_ 'give' seems to be _*pe-_ + _ai-_, cf. Toch. B _ai-_, A _e-_ 'give', Gk. _aínumai_ 'take', cf. Melchert, _StHHPh._, 32, and n. 65 (with further references). For the sequence _*-e_$\underset{\cdot}{H}_2$_-_, see § 41 below.

Remark: For these and other similar forms, see Gamkrelidze, _Laringal'naja Teorija_, 75 ff., Ivanov, _VMU_ No 2, 1957, 29 ff. It is frequently assumed that Anatolian _h_ was lost in Hittite in certain positions, e.g. after _*-t-_, cf. Polomé, _RBPhH_ 30, 1044, and n. 2, who posits _*-t_H_2_e_ (= Skt. _-tha_, 2 sg. perfect) > Hitt. _-ta_ (2 sg. pret. of the _hi-_ conjugation; cf. 2 sg. middle pres. _-ta-_). According to Melchert, _AHPh._, 68f., *H_2 was regularly lost after voiceless stop in Hittite. One of his examples is Hitt. _paltana-_ 'shoulder' < _*plt_H_2_-ono-_. To account for Hitt. 2 sg. pret. _-ta_ and similar forms by assuming a particular reduced grade ($*\text{-}_{e}H_2\text{-}$) or a 'vocalization' of *H_2 > _a_ does not seem to be possible, cf. §§ 41, 69, _Remark_ below.

§ 29 A _voiced_ initial *$\underset{\cdot}{H}_3$- seems to be lost in Anatolian if Lindeman, _To Honor Roman Jakobson_ II, 1188 f., is justified in taking Hitt. _ais_ n. (written _a-i-is_), abl. sg. _issaz_ (_is-sa-az_), etc., and Luwian _assa-_ n. 'mouth' (_a-a-as-sa-_, Laroche, _RHA_ 23, 45) to represent IE _*_$\underset{\cdot}{H}_3\acute{o}H_1$_-es-_, cf. Lat. _ōs_ 'mouth'.[36] See also Eichner, _Sprache_ 24, 162, n. 77, for other possible examples. For IE _*-e_$\underset{\cdot}{H}_3$_-_ see § 43 below. For Hitt. _happar-_, _happir_ n. 'business, trade', _happiriya-_ 'sell' and Lyc. _epirije-_ 'sell' (< Luw. _*apīriya-_ with _-ī-_ presupposing orig. _*-ē-_)[37] which may go back ultimately to IE ablauting[38] _*_H_3_ópr_ ~ _*_H_3_pēr_ (< √H_3_ep-_ seen in e.g. Hitt. _happinant-_ 'rich', cf. Lat. _opulentus_ < _*openont-_,[39] _opus_, Skt. _ápas_ 'work') with an initial voiced _o_-colouring 'laryngeal' *[γ^w], see Lindeman, Indo-European and Proto-Anatolian vowels: a phonologic remark, _ActOr._ (forthcoming).[40]

---

[35] According to Oettinger, _Kuryłowicz Memorial Volume_ I, 181-85, the _-e-_ of _appezzi-_ and _hantezzi-_ is of anaptyctic origin so that the Proto-Anatolian forms in question should be reconstructed as _*ap-tiyo-_, _*hant-tiyo-_ (??).

§ 30 The sequences _*_H_1_e-_ and _*_H_1_o-_ (with _*o_ < _*e_ by qualitative ablaut) seem to have given _*e-_ and _*o-_, respectively, in all the IE languages. Examples: Hitt. _ed-_ 'eat', Lat. _edo_, Gk. _édomai_, Goth. _itan_ (IE _*_H_1_ed-_); Hitt. _es-_ 'be', Gk. _estí_, Goth. _ist_, etc. (IE _*_H_1_es-_).

As IE _*o_ becomes Hitt. _a_, we must expect the combination _*_H_1_o-_ to have given Hitt. _a-_. Consequently, Hitt. _arkiya-_ 'testicle' (nom. pl. _ar-ki-_

---

[36] A reconstruction _*_H_1_o_H_3_-es-_ (see e.g. Rix, _IF_ 96, 272) constitutes a less economical solution than the one proposed here since it necessitates the additional assumption of an analogical restoration of the _e_ (> Hitt. _i_) of the suffix. See Lindeman, _HS_ 105, 1992, 165, n. 12.

[37] See Melchert, _AHPh._, 283.

[38] See Puhvel, _HED_ 3, 127: 'The variation _happir-_ : _happar-_ : _hapr-_ reflects stem-ablaut, as in e.g. _pir-_ : _parn-_;...'

[39] Cf. Szemerényi, _Glotta_ 33, 1954, 275ff.

[40] According to the generally accepted rules of IE phonology, _*_H_3_pēr_ would be realised phonetically as *[x^w_pēr_] (with *γ^w > *x^w, by normal assimilation). Consequently, if Anatolian inherited these ablauting stems from the parent IE language, they would there appear as *$\gamma^{(w)}$_apr_ ~ *$x^{(w)}$_pēr_. As a consequence of the regular PAnat. loss of the voiced *$\gamma^{(w)}$, however, the inherited *$\gamma^{(w)}$_apr_ ~ *$x^{(w)}$_pēr_ would now develop into _*apr_ ~ *$x^{(w)}$_pēr_ > _*xpēr_. In Luwian the full grade root form _*ap-_ would seem to have been generalized. In Hittite, however, the inherited _*xpēr_ seen in _happir_, the _-a-_ of which is graphically or phonetically anaptyctic, would have formed the basis for the creation of a new full grade _*xapr_ attested by _happar_, which, then, ousted the original full grade (_*appar_) from the language.

i-e-es), Arm. nom. pl. *orjikʿ*, gen. pl. *orjwocʿ* (stem *org'hiyo-), OIr. *uirge* 'a testicle' (< collective *org'hiyā) may all go back to an IE stem *H_1org'hi- (see Watkins, *BSL* 70, 12 and Puhvel, *JAOS* 95, 262 ff.). The underlying verbal stem *H_1erg'h-/*H_1r̥g'h- is found in the Hittite verb *arg-* 'mount, cover' (3 sg. pres. *ar-ga*, imperative 3 sg. *ar-ga-ru*) according to Watkins, ibid. p. 12.[41] Another *o-grade noun with initial *H_1- is attested by Hitt. *arras* 'buttocks', Gk. *órros* 'rump', Arm. nom. pl. *oṙkʿ* (*i*-stem), OHG *ars* (IE *H_1orso-). For the Hittite form with *-rr-*, cf. the discussion by Neumann, *KZ* 72, 79 f. The *e-grade *H_1ers- is seen in OIr. *err* f. 'end, tail' < *ersā.

The 'laryngeal' under discussion has no colouring effect on a neighbouring vowel and is represented by *zero* in Hittite (*ed-* 'eat', etc.).[42] This means that we have no concrete linguistic evidence that can justify reconstructions of the type *H_1ed- 'eat', *H_1es- 'be'. Most 'laryngealists' assume, however, that the parent language had no (verbal) roots with an initial vowel. This assumption is based on Benveniste's theory of the IE root according to which the IE root consisted of two consonants that took the vowel *e between them in the (accented) full grade: *CéC- vs. zero grade *CC-.[43] The root may be followed by a suffix: a full grade root takes a zero grade suffix, whereas a zero grade root can only be followed by a normal grade suffix. Schematically, this gives us the two following types: **CéC-C-* (theme I) and **CC-éC-* (theme II). For further details, see *Origines*, 147 ff. See also § 36 below.

---

[41] Oettinger, *Festschrift Strunk*, 216, n. 16, on the strength of Avest. *ərəzi-* 'testicle(s)' and Gk. *órkhis*, takes Hitt. *arki-* to be a reflex of an IE zero grade formation which he reconstructs as *H_3r̥g'hi-: Gk. *órkhis*, according to Oettinger, owes its shape to the so-called 'lex Rix'. Oettinger's explanation can be shown to be unjustified, however: as the *e*-grade of Lith. *eřžilas* and the *o*-grade of Arm. *orjikʿ* demonstrate, Gk. *órkhi-*, like Hitt. *arki-*, can come from *H_1org'hi-. In fact, Arm. *orjikʿ* and Hitt. *arkiyes* could both go back ultimately to an IE preform of the shape *H_1org'hiyes. For 'lex Rix' which we consider non-existent, see § 31 below.

[42] For the single *h* combined with *e*-vocalism in Hittite forms like *wehzi* 'turns' see § 92 below.

[43] See also Cuny, *Revue de Phonétique* 2, 104 ff. A root structure corresponding to that posited for Indo-European by Benveniste would seem to have existed also in Proto-Khartvelian according to Gamkrelidze and Matchavariani, *Sonant'ta sist'ema da ablaut'i kartvelur enebši*, Tiflis, 1965. Cf. Gamkrelidze, Kartvel'skij i indoevropejskij (in *Problemy Jazykoznanija*, Moskva, 1967, 211 ff). The typological correspondences in question have been discussed in some detail by Hans Vogt, *Bedi Kartlisa, revue de kartvélologie* XXIII-XXIV (Paris, 1967), 31 ff. Cf. also the discussions by G. Jucquois, *La linguistique* 8, 73 ff.; Gamkrelidze, *VJA* 3, 1971, 34 ff.; Gamkrelidze-Ivanov,

Remark: According to G.A. Klimov, *Voprosy metodiki sravnitel'no-genetičeskix issledovanij* (Akademija Nauk SSSR, Leningrad 1971), p. 46, we may have a tangible reflex of an initial *H_1- in the Udi word for 'horse', i.e. *ẹk*, pl. *ẹk-ur* or *ẹk-ur-ux* (the *u* belongs to the suffix) in which *ẹ* is a pharyngealized vowel *e*, and *k* is aspirated voiceless *k*. (Udi is the southernmost of the East-Caucasian languages). Klimov suggests that *ẹk* may be an IE loan-word, i.e. a reflex of IE *H_1ék'wo- (Skt. *áśva-*, Lat. *equus*, etc.). Hans Vogt has informed me that the 'pressed' vowels of Udi may as a rule be ascribed to the loss of an initial pharyngeal. Thus one might assume that IE *H_1ek'wo- underwent the following development once it had found its way into Udi: *H_1ek'wo- > *[*x̄ek-*] > *[*x̄ẹk-*], whence *ẹk*. Although Klimov's hypothesis raises interesting perspectives, a critical appraisal of it remains impossible as long as it is based solely on the word *ẹk*, as accidental similarity of form cannot be ruled out in such a case.

J. Koivulehto, *Virittäjä* 2, 1986, 176 f., thinks that Finnish loanwords have preserved

---

Indoevropejskij jazyk i indoevropejcy I, 1984, 251 ff.; H. Vogt, *VJA* 4 (1971), p. 41, and J. Taillardat, *E. Benveniste aujourd'hui* II, p. 175 ff. In his recent contribution, The root structure and apophony in Kartvelian (South Caucasian) and Indo-European, *Kuryłowicz Memorial Volume* I, 81-91, Gamkrelidze claims (p. 89) that 'The Kartvelian ablaut pattern provides a perfect parallel to Benveniste's binomes as they functioned just before the breakup of Proto-Indo-European.' On the basis of his structural and typological comparison of the reconstructed Proto-Kartvelian ablaut system with that of Proto-Indo-European, he concludes (p. 90) that 'Systemic changes in Indo-European and Kartvelian were in the direction of increasing similarity, and they ultimately produced a morphophonemic isomorphy so thoroughgoing as to preclude the possibility of independent typological development and to strongly suggest historical contacts.' For a recent critical discussion of Gamkrelidze-Ivanov's views on Proto-Kartvelian and Proto-Indo-European correspondences, see J. Gippert, Die Glottaltheorie und die Frage urindogermanisch-kaukasischer Sprachkontakte, *In honorem H. Pedersen*, 107-123. For a recent discussion of possible ancient areal contacts between Indo-European and Kartvelian see also G. A. Klimov, Kartvelian Evidence for the Indo-European Laryngeals ?, *IF* 99, 1994, 62ff. It should also be pointed out that Cowgill, *Kratylos* 29, p. 7, thinks that 'Benveniste's reduction of all roots to CVC, while brilliant and imaginative, is ultimately unconvincing and, on the whole, has not led to better understanding of the Indo-European protolanguage.' Cf. also Kuryłowicz, *Apophonie*, p. 106. For a criticism of Benveniste's root theory see also J.H.W. Penney's article Laryngeals and the Indo-European Root, *Laryngaltheorie*, 361-372.

traces of various IE 'laryngeals', e.g. Finn. _kesä_ 'summer' < IE *H_1_es_- 'Erntezeit, Sommer' (Goth. _asans_ 'id.'), or Finn. _koke_- '(Netze) nachsehen' < IE *H_3_ek_^{w}- 'see' (Gk. _ópsomai_, etc.). Cf. also T.K. Nilsson, Reflexes of IE. laryngeals in four Finnish words, _IF_ 99, 50ff. Speculation of this kind, based on 'root etymologies', does not, however, furnish any cogent evidence for the IE 'Laryngeal Theory'. See further Koivulehto, _Symposium Saeculare Societatis Fenno-Ugricae_, 1983, 149 f., Indogermanische Laryngale und die finnisch-ugrische Evidenz, _Laryngaltheorie_, 281-298, and _Uralische Evidenz für die Laryngaltheorie_, Wien 1991, cf. Lindeman's review in _IF_ 98, 1993, 309ff. See also R. Gusmani's critical contribution Tracce di laringali in Uralico ?, _Incontri Linguistici_ 17, 1994, 33-41.

§ 31 Similarly, 'laryngeals' in initial position before a syllabic resonant (_i_, *_u_, *_ṛ_, *_ḷ_, *_ṃ_ and *_ṇ_) are regularly lost in non-Anatolian Indo-European.

Examples: Gk. _itharós_ 'cheerful, glad' < *H_2_idh_- vs. _aíthō_ 'light up, kindle' < *H_2_eidh_-; with Gk. _ith_- compare Skt. _idh_- 'kindle' in _inddhé_ etc. Gk. _hudéō_ 'sing' < *H_2_ud_- vs. _audḗ_ 'voice' < *H_2_eud_-; with Gk. _hud_- compare Skt. _ud_- in pass. _udyáte_, etc. (: _vad_- 'speak', IE *H_2_wed_-, i.e. theme II *H_2_wéd_-). Cf. Cowgill, _EvfL_, p. 146.

Further examples: Skt. _uṣā́s_ 'dawn' < *H_2_usṓs_ vs. Lat. _aurora_, Gk. _héōs_ < *H_2_ews_-, cf. Skt. _uccháti_ 'shines' < *H_2_us-sk'e_-; Proto-Gk. *_nāt_- < *H_2_ṇHt_- in Ion. _nêssa_, Att, _nêtta_ 'duck' vs. Lat. _anas_, _anatis_, Lith. _ántis_, OHG _anut_, etc. < IE *H_2_enHt_- (see Lindeman, _IF_ 99, 1994, 43f.).[44]

A sure Anatolian example showing the maintenance of _h_- before _i_ is Luw. 3 pl. _hishiyanti_ 'they bind' < reduplicated *_Hi-sHiy_-, cf. the Skt. type _tí-ṣṭhati_, and see Puhvel, _HED_ 1-2, 402 (with references).[45] A further possible example is Hitt. _hissa_- (_hi-is-sa_-) 'a pole, thill' < (?)

---

[44] Kuryłowicz, _IdgGr._ II, 33, sees in cases like Lith. _béržas_ ~ Skt. _bhūrjá_- 'birchtree', Lat. _armus_ ~ Skt. _īrmá_- 'arm', Lith. _ántis_ 'duck' ~ Vedic _ātí_- 'a water bird' ' ... ein Ergebnis verschiedener Fixierung eines ursprünglich beweglichen Paradigmas...'. In any case, there is nothing that forces us to accept Lubotsky's hypothesis (_Fachtagung_ VIII, 261-269) according to which the oxytonesis of e.g. _ātí_- (< *H_2_ṇHti_-) is due to an 'Indo-Iranian laryngeal accent shift', the phonologic justification for which Lubotsky himself considers, doubtless correctly, 'incomprehensible' (ibid. 269).

[45] For a different morphologic analysis of Luw. _hishiyanti_ see Hoenigswald, _Festschrift Szemerényi_ III, 1993, 120 (with references). Cf. below § 37 a., n. 60.

*$H_{2/3}iHs$-, cf. Skt. _īṣā́_ ‘id.’ (see Benveniste, _HI_, 13 f., cf. Melchert, _AHPh._, 78). It is possible, however, that Puhvel, _HED_ 3, 318f., is right in thinking that the Vedic _ā_-stem in question may be a specifically Indic formation (cf. _díśā_ ‘direction’ ~ _diś_- ‘point out, show’) and that Hitt. ‘_hiss(a)-_, _hess(a)-_ can reflect a diphthongal antecedent *_heis(a)-_ or *_hais(a)-_ < *_hois(a)-_, thereby tying in formally more closely with such further cognates as Proto-Iranian *_aiša_- (Avest. _aēša_- ‘[pole-]plow’, and borrowed terms for ‘pole, thill[s]’ in various Finnic languages [Komi, Udmurt, Mordvin], esp. Finnish _aisa_, Estonian _ais_;’ For a discussion of the origin of Gk. _oiḗion_ ‘tiller, helm, rudderpost’ see Puhvel, ibid. 319, who also insists that it ‘... is doubtful that Ved. _īṣā́_ alone justifies the postulation of a proto-form with a further laryngeal, whether *H_1iH_2s- ... or *H_1oyH_2s- ...’. We have no definite knowledge of the quantity of the _i_ of Hitt. _hissa_- (cf. § 96, n. 111). For Hitt. _him(m)a_- ‘imitation, substitute, replica, etc.’ < *_Himo_-, cognate with Lat. _imitor_ ‘copy’ see Puhvel, _HED_ 3, 315, with references.

A plausible example for IE #_Hr̥-C_- > PAnat. #_har-C_- is Hitt. _hartag(g)a_-, i.e. _hartka_-, ‘bear’ (cf. _StBoT_ 26, 58, n. 264, Puhvel, _HED_ 3, 201), cognate with Gk. _árktos_, Skt. _ŕ̥kṣa_-, Avest. _arəša_-, Lat. _ursus_, OIr. _art_, etc.; the IE preform of the word meaning ‘bear’ may be reconstructed as *_Hr̥tk’o_- (cf. Mayrhofer, _IdgGr._ 1, 153, Puhvel, _HED_ 3, 202). Plausible examples for IE #_Hl̥-C_- > PAnat. #_hal-C_- are Hitt. _halzihhi_ ‘call out; summon, invoke, etc.’ < PAnat. *_halt_- with *_halt_- from IE *_Hl̥t_-, zero grade of the theme II *_Hl-et_- found in Goth. _laþōn_ ‘call, summon’ (Puhvel, _HED_ 3, 63), and Hitt. _hall(a)_- in _hallanniya_- ‘lay waste, ruin’ < PAnat. *_halna_- < IE *H_3_l̥-n(e)_H_3-, cf. Gk. _óllumi_ ‘destroy’ (Puhvel, _HED_ 3, 14), and see above § 27.

§ **31 a**. In _MSS_ 27, 79 ff., H. Rix tries to demonstrate that IE *H_1-, *H_2-, and *H_3- in the position before *_r̥_, *_l̥_, *_m̥_ and *_n̥_ are reflected by _e_-, _a_-, and _o_-, respectively, plus _r_, _l_, _m_ and _n_ in Greek. He concludes that the replacement of the IE ‘laryngeals’ in initial position by Greek vowels is older than the Greek vocalization of the IE resonants. Rix’s assumptions, although accepted by Mayrhofer, _IdgGr._ 1, 129 f., are in conflict with what has hitherto been the _communis opinio_ regarding the behaviour of the IE ‘laryngeals’: in prevocalic position, i.e. in the sequences *_HV_- and

**HṚ*-, the 'laryngeals' are lost in the IE dialects outside Anatolian (with the possible exception of Arm. *h*-, cf. § 21, *Remark* above); for a criticism of Rix's views, see Lindeman, *Triple representation*, 60 ff.

As pointed out in § 16, the 'laryngeals' posited for the parent language were consonantal phonemes inherently less sonorous than the resonants **y*, **w*, **r*, **l*, **m*, **n* (cover symbol *R*). It is further an undeniable fact of Indo-European phonology that—according to Sievers-Edgerton's Law—the (phonemic) sequences #/RT-/ (T = plosive or *s*) and #/TRT-/ were realized phonetically as #[*ṚT*-] and #[*TṚT*-], respectively, in the parent IE language, cf. e.g. #/ns-/ (zero grade of **nes*-, Skt. *nas*- 'unite') = #[*ṇs*-] > Skt. *ásta*- 'home'; #/tntós/ (ptc. of **ten*-, Skt. *tan*- 'stretch') = #[*tṇtós*] > Skt. *tatá*-, Gk. *tató*-, Lat. *tentum*; #/wk'-/ (zero grade of **wek'*-, Skt. *vaś*- 'desire') = #[*uk'*-] > Skt. *uś(-mási)*; #/swp-/ (zero grade of **swep*-, Skt. *svap*- 'sleep') = #[*sup*-] in Skt. ptc. *sup(-tá-)*, Gk. *húpnos*, Alb. *gjumë* 'sleep', etc.

Since **H* was a consonant inherently less sonorous than *R*, it inevitably follows that the phonemic sequence #/HRT-/ must have been realized phonetically as #[*HṚT*-] in the parent IE language, which is confirmed beyond doubt by the Anatolian and non-Anatolian IE material cited in § 31. This means that Rix's assumption that the 'replacement' in initial position of the IE 'laryngeals' by Greek prothetic vowels is older than the development of IE syllabic resonants such as **ṃ*, **ṇ* into Greek *a*, is unfounded. There is simply no justification for the aberrant phonetics and phonology involved in the supposed development of e.g. IE *#/H_2mbhy/* = *#[H_2ṃbhí]* > Gk. *#amphí* where the *consonantal* 'laryngeal' is said to have been 'replaced by a prothetic vowel' in the position before the *vocalic* resonant [*ṃ*], in the same way as an initial 'laryngeal' in the position before a following *consonantal* liquid or nasal (type #[*Hner*-] > Gk. *aner*-): as the phonetic environment of #[*HṚT*-] differs from that of #[*HRV*-], there is no reason whatever to expect *a priori* the same development of the initial 'laryngeal' in these cases. For a detailed criticism of 'Rix's Law' see Lindeman, *Triple representation*, 60ff., *HS* 102, 1989, 271f., *IF* 99, 1994, 42-49.

Several of the examples given by Rix can contain a full grade vocalism. Thus, Gk. *omphalós* 'navel', Lat. *umbilicus*, and Gmc. **amban*- in OHG *amban* 'belly' and OSax. (acc. pl.) *ambon* 'abdomina' may all be from *H_3_embh-_ (vs. *H_3_nobh-_ in Skt. _nābhi-_ f. ‘navel’,[46] OPruss. _nabis_, Latv. _naba_, cf. zero grade *H_3_ṃbh-_ in OIr. _imbliu_ < stem *H_3_ṃbhliyon-_); Gk. _audḗ_ ‘voice’, assumed to reflect IE *H_2_ud-é_H_2, may be a noun of the _tomḗ_-type, and consequently represent *H_2_awdá_H_2: according to § 40, the qualitative ablaut *_e_ > *_o_ arose later than the colouring of */e/ to *[_a_] by a neighbouring *H_2 so that *[_a_] here would not have been affected by the ablaut in question. Scholars who believe (with Hamp, _MSS_ 37, 62, and Ruijgh, _Lingua_ 26, 90 ff., cf. § 40 below) that IE *H_2_o_ (with *_o_ < *_e_ by qualitative ablaut) became *H_2_a_, posit *H_2_owdá_H_2 for Gk. _audḗ_.

On the strength of _umbilicus_ ‘the navel’, _unguis_ ‘a nail’, _amb-_, _ambi-_ ‘around’, Rix, op. cit. 96, proposed to establish a new sound law for Latin: ‘Für idg. ə̯$_1$- ə̯$_2$- ə̯$_3$ im Anlaut vor _ṇ ṃ_ erscheint im Lateinischen ungeachtet späterer kombinatorischer Veränderungen _e- a- o-_ vor _n m_ (_/e a o/_ + _/n m/_).’ However, Rix, _IF_ 96, 273, n. 3, has now withdrawn this hypothesis which, as pointed out by Lindeman, _Triple representation_, 61, finds no support in IE phonology. See also Lindeman, _IF_ 99, 1994, 47, n. 19.

Remark: Taking _ársen-_ ‘male’ to be the regular outcome in Greek of an IE stem *H_2_wṛ́sen-_ (> Ved. _vṛ́ṣan-_ ‘male’) Peters, _Festschrift Rix_, 373-405, considers Gk. (dial.) _ersēn_ ‘male’ (of uncertain accentuation) a reflex—according to ‘lex Rix’—of a different IE stem of the shape *H_1_ṛs-en-_, seen in YAvest. _aršān-_ (i.e. [_ṛšān-_]) ‘male; hero’, Ved. _ṛṣa-bhá-_ ‘a bull’ (< *H_1_ṛsn-_ + suffix _-bhó-_), and Arm. _aṙn_, gen. sg. _aṙin_ ‘a ram’. It is easy to demonstrate, however, that Peters’ reasoning here is both illogical and futile. Firstly, whatever conclusions can be drawn from Homeric metrics regarding the possible, earlier existence of an initial digamma in _ársēn_ cannot, of course, serve as an argument in favour of separating _ársēn_ etymologically from _ersēn_ as long as the latter word remains unattested in Homer. Secondly, accepting the _communis opinio_ according to which Gk. _ersapho-_ (in _Eiraphiṓtēs_, epithet of Dionysos) corresponds etymologically to Ved. _ṛṣabhá-_ ‘a bull’ cited above, and assuming that _ersapho-_ owes its _e_-grade to the analogical influence of _élapho-_ ‘a deer’ < *H_1_élṇ-bho-_, cf. also _éripho-_ ‘a kid’ < *H_1_éri-bho-_, we can set up the following chain of phonologic events to account for the development of the IE stem _*H_1r̥s(e)n-_ in Greek:

---

[46] Whether Arm. _aniw_ ‘wheel’ belongs here (as assumed by R-P. Ritter, _MSS_ 42, 1983, 191-196, who takes _aniw_ to be from *H_3_nēbho-_ ‘zur Nabe gehörig’) is uncertain: both the radical vocalism (_-i-_ < pre-Arm. *_-ē-_, *_-ī-_) and the _-w-_ (< *_-bh-_, *_-p-_, *_-w-_) of _aniw_ are ambiguous, formally. Also, the _a-_ of _aniw_ cannot be shown to continue an initial IE ‘laryngeal’.

(1) IE _*H_1r̥s-en-_ ~ (weak stem form) _*H_1r̥s-n-_ 'male', e.g. in the compound meaning 'a bull', i.e. _*H_1r̥sn̥-bho-_.

(2) The syncretism of all 'laryngeals' under one colour changes these forms to non-Anatolian IE

*Hr̥sen- ~ _*Hr̥sn-_, cf. _*Hr̥sn̥-bho-_.

(3) pre-Greek: on the model of (zero grade) _*Hr̥sn-_ (in _*Hr̥sn̥-bho-_) becoming _*Hersn-_ after _*Héln̥-bho-_, (full grade) _*Hr̥sen-_ follows suit and is now refashioned to _*Hersen-_ according to the following analogical proportion:

*Hr̥sn̥-(+-bho-) → _*Hersn̥-(+-bho-)_
= _*Hr̥sen-_ → _x_; _x_ = _*Hersen-_.

(4) Greek reflexes: _ersen-_ ~ _ersa-(pho-)_.

Interpreted in this way, _ersen-_ does not owe its form to any 'lex Rix', and since, according to Peters, _ársen-_ comes from a totally different source (_*H_2wŕ̥sen-_), this form can be left out of consideration here.

According to the teaching of the present book, however, a non-Anatolian IE form such as _*Hr̥sen-_ (< orig. _*H_1r̥sen-_) would give Gk. _arsen-_, by regular sound change. The discussed remodelling of the inherited _*Hr̥sn̥-_ (in _*Hr̥sn̥-+-bho-_) into _*Hersn̥-_ (in Gk. _*ersa-+pho-_) could be seen as the ultimate source of _ersen-_, an analogically created variant form—of limited distribution—of _arsen-_.

§ **32** According to Ivanov, _Obščeindoevropejskaja_, 11 ff., cf. _VMU_ No 2, 1957, 36, short vowels (and also syllabic resonants) were sometimes lengthened by the loss of a _preceding_ 'laryngeal'. This hypothesis, however, does not find convincing support in the attested material. The regular development of a sequence _*HeC-_ can be seen in forms like Skt. _ájati_, Lat. _ago_, Gk. _ágō_, etc. (< _*H_2ég'-e/o-_, cf. § 23 above). The preform of lat. _āra_, Osc. _aasaí_ (loc. sg.) 'an altar' can be posited as _*H_2eHs-_ (cf. Sturtevant, _CG_, 49). The latter form may also be the source of Hittite _hassa-_ (_ha-as-sa-_) 'hearth'; the quantity of the _-a-_ in the first syllable of _hassa-_ remains unknown, cf. § 96 below. The assumption of a lengthened grade _*H_2ēs-_ (i.e. phonetically _*[H_2ās-]_ according to § 46) could also account for the forms in question. For a different opinion see Gamkrelidze, _Laringal'naja Teorija_, p. 84, who takes Lat. _āra_ to come from _*eH_2s-_ by assuming an unwarranted 'laryngeal' metathesis. For Hitt. _hassa-_ and related forms see now Puhvel, _HED_ 3, 224. Further, Ivanov, _Obščeindoevropejskaja_, 13 (cf. _Toxarskie Jazyki_, 14 f.), points to certain Hittite-Tocharian correspondences of the type Hitt. _hant-_

'front': Toch. B *ānte*, A *ānt* 'front, etc.', Hitt. *harki-* 'white': Toch. B *ārkwi*, A *ārki* 'white', where Hitt. *ha-* and Tocharian *ā-* (allegedly arisen from short *a* by lengthening caused by the loss of a preceding 'laryngeal') are supposed to contrast with the short initial vowel in the other IE languages (cf. Lat. *ante*, Gk. *antí*, etc.). However, IE short **a* is *always* continued in Tocharian by *ā* > B *ā* (accented), *a* (unaccented), A *ā*, cf. A *sāle*, B *salyiye* 'salt' (< IE **salyo-*). IE *ə has coalesced with **a* in Tocharian, e.g. A *ckācar*, B *tkācer* 'daughter': Skt. *duhitár-*. See Krause-Thomas, *Tocharisches Elementarbuch* I, § 24.

§§ 33-36 'Laryngeals' in internal position between syllabic sounds

§ 33 In this position the 'laryngeals' are lost in non-Anatolian Indo-European without causing any vowel lengthening. In such cases the disappearance of presyllabic 'laryngeals' must have resulted in a hiatus which was removed by contraction at a later stage. Thus, Gk. *pleîstos* 'most', if from *$pleH_1$-isto-*, goes back to **pleïsto-* whose hiatus (*-eï-*) was replaced by the diphthong *ey*. Cf. Cowgill, *EvfL*, p. 147. See also Lindeman, On some 'laryngeal' reflexes in Celtic, *ZCP* (forthcoming).

§ 34 A particularly illustrative example of the removal by contraction of a hiatus, due to the loss of an intervocalic 'laryngeal', could be seen in the non-Anatolian 1 sg. active thematic ending *-*ō* (Gk. *phérō*, Lat. *fero*, Goth. *baira*, Lith. *vežù*) if this can be equated with the Hittite 1 sg. middle *-ah-ha*: *[*-o-H_2a*] (for *[*-a-H_2a*], according to § 26, with analogically restored thematic vowel *-o-*) > *-*o-a*, whence *-*ō* by contraction.[47]

Another plausible example can be found in Hitt. *uhhi* 'I see' (*u-uh-*

---

[47] For these endings, cf. E. Neu, *StBoT* 6, 139; Ivanov, Otraženie dvux serij indoevropejskix glagol'nyx form v praslavjanskom (*Slavjanskoe Jazykoznanie, 6. meždunarodnyj s''ezd slavistov*, Moskva, 1968), p. 229, n. 15; C. Watkins, *IdgGr*. III/1, 108 f., 129; Lindeman, *HethIdg*., 157, n. 30.

_hi_): Vedic _uvé_ 'ich sehe an mir' < _*u-ái_ (1 sg. pres. middle).[48] For the inflection of Skt. _rayí-_ 'property, wealth', cf. the discussion by Kuryłowicz, _ÉI_, 36 f.: nom. sg. _rayíḥ_ < _*re-ïs_ < _*reH_$_1$_-is_, dative sg. _rāyé_ < _*reH_$_1$_y-éi_ (with _*-eH_$_1$_y-_ > _*-ēy-_ according to § 44). The inflection of _rayí-_ is comparable to that of _ávi-_, _ávyas_ or _páti-_, _pátye_, _pátyā_. The maintenance of the hiatus in the nominative sg. is difficult to account for. However, Kuryłowicz, ibid., p. 37, note 1, calls attention to the disyllabic character of the other forms (_ray-é_, etc.), cf. also Szemerényi, _KZ_ 73, 167 ff., for a discussion of Lat. _res_, _rem_, etc. See also Mayrhofer, _IdgGr_. 1, pp. 124 and 149 and note 210. For Skt. _náus_ 'ship', gen. sg. _nāvás_, see Kuryłowicz, _ÉI_, 38.

§ 35 In the opinion of some scholars, Vedic Indic is supposed to have preserved particularly clear vestiges of old hiatus caused by the loss of intervocalic 'laryngeals' (schematically _*-eHe-_ > Vedic _-aa-_), cf. Kuryłowicz, _ÉI_, 35. Vedic metre requires that a long vowel must sometimes be pronounced as equivalent to two short syllables, e.g. the imperative _pāntu_ (from _pā-_ 'protect') which must be read as _paantu_ in _RV_ IV, 4, 12. Similarly, the indicative forms _pā́nti_ 'they protect' and _yā́nti_ 'they go' (from _yā-_) must frequently be pronounced as _paánti_, _yaánti_, cf. also the participle _paántas_, _paántam_, etc. These forms seem structurally to correspond to _adántu_, _adánti_, _adántas_ (: _átti_ 'eats'). Root nouns in _ā_ frequently display a hiatus in the acc. sg., nom. acc. dual, and nom. acc. plur. (_-aam_, _-aā_, _-aas_): _tanū-páam_ 'protecting the person', _go-paā_ 'a herdsman', etc. (Kuryłowicz, _ÉI_, 35 and _IdgGr_. II, 16 ff). Stems in _s_ of the type _bhās_- 'light', structurally parallel to the type _tápas_- 'warmth, heat', must often be pronounced as _bhaas_-, etc. Cf. also superlatives like _daïstha_- (written _destha_-) from the root _dā_- 'give' (< _*deH_$_3$_-ist(h)o-_).

However, the importance of such Rigvedic scansions should not be overrated: the possibility that the disyllabic pronunciation is in many cases due to analogy cannot be excluded. Thus, the analogy of *adántu* : *átti* may have created a *paántu* from *pā́ti*, see Hoenigswald, *EvfL*, 97, and Messing, *SSP*, 178 ff.

---

[48] W.P. Schmid, _IF_ 63, 144 ff.; Rosenkranz, _IF_ 64, 68; and Watkins, _IdgGr_. III/1, 83. Melchert, _StHHPh_., 66, note 122, writes, 'It is possible that _*au-_ "perceive" had quantitative ablaut ...: _*áu-h_$_2$_ei_ > _uhhi_, _*u-wéni_ > _umeni_.' See also Puhvel, _HED_ 1-2, 243.

Mayrhofer's equation, *EWAIA* II, 545, of Vedic *vā́r* n. 'water' with Luw. *wa-a-ar* 'water', supposedly from IE *woH_1-*r̥* according to Watkins, *Hethitica* 8, 1987, 423f., is questionable: the Luwian word (written [*w*]*a-a-ar-sa-at-ta*, StBoT 30, 68) may be *warsa* = Hitt. *warsa* neuter pl. 'drops'. Meriggi, *WZKM* 53, 1957, 215, proposed the meaning 'tears' for the Luwian word in question, see Starke, *StBoT* 31, 1990, 329. Vedic *vā́r* may presuppose IE *H_2*wōr*, originally a collective of the type seen in Gk. *húdōr*. If, as assumed by Duridanov,[49] *Studien zum indogermanischen Wortschatz*, Innsbruck, 1987, 29, Thracian **auras* 'water, river' in the river name *Aúras* (Hdt.), cf. Gk. *ánauros* 'a torrent; also name of a river in Thessaly' (Chantraine, *DELG*, 85), is of IE origin, it could theoretically reflect a theme I *H_2*éw-r-* contrasting with the theme II attested by Vedic *vā́r*. If so, the disyllabic pronunciation of Vedic *vā́r* might reflect ultimately a Sievers' Law variant form *[H_2*uōr*] (after a heavy syllable) > Indo-Ir. **uār* ~ *vār*. The old disyllabic pronunciation **uār* could at any stage be replaced by *vaar* (~ *vār*) after *bhaas-* ~ *bhās-* and similar forms. OIcel. *úr* 'fine rain' presupposes IE *uH_2*r-*, by 'laryngeal' metathesis of (preconsonantal zero grade) *H_2*u-* > *uH_2-. Cf. § 53 below.

For the treatment of intervocalic 'laryngeals' in Iranian, see R.S.P. Beekes, *Bono homini donum*, 47 ff., who assumes that where the preceding vowel was Indo-Iranian *a*, contraction was regular in Gatha-Avestan, and that disyllabic sequences are mostly due to analogy. See also E. Pirart, *MSS* 47, 159 ff.

§ 36 The regular loss of **H* in the presyllabic sequences **CiH-*, **CuH-*, **Cr̥H-*, **Cl̥H-*, **Cm̥H-* and **Cn̥H-* results in the rise of the prevocalic phonemes */i/ */u/ */r̥/, etc. in non-Anatolian Indo-European, see Kuryłowicz, *PICL* 8, p. 222, *Apophonie*, § 19. Only a few corresponding forms with preserved *h* are attested in Anatolian.

---

[49] See p. 29 in Duridanov's article Die geographische Terminologie indogermanischer Herkunft im Thrakischen und Dakischen, *Studien zum idg. Wortschatz*, 29-34.

Kuryłowicz has shown[50] that the prevocalic resonants *ṛ*, *ḷ*, *ṃ*, *ṇ* that arose in the sequences *TṛHV-*, *TḷHV-*, *TṃHV-*, *TṇHV-* after the regular loss of *H* in the position before a following vowel gave *ar*, *al*, *am*, *an* in the meridional languages (i.e. Celtic, Italic, Greek and Armenian). It should also be noted that prevocalic *ar*, *al*, *am*, *an* tend to replace older *r*, *l*, *m*, *n* in the sequences **Tr-V-*, **Tl-V-*, **Tm-V-*, **Tn-V-* of *aniṭ*-roots according to the following analogical proportion:

> prevoc. full grade *-er-*, etc. : prevoc. zero grade *-ṛ-*, etc. (in *seṭ*-roots) = prevoc. full grade *-er-*, etc. : prevoc. zero grade *x*; *x* = *-ṛ-*, etc. (for *-r-*, etc. in *aniṭ*-roots), see Kuryłowicz, *IdgGr.* II, 225.

Remark: Many exceptions to Sievers' Law must be attributed to the development of earlier **CṚH-V-* into */CṚ-V-/: the latter sequence presents a vocalic resonant also after a short preceding syllable, see Kuryłowicz, *Apophonie*, § 19 and Lindeman, *Verschärfung*, 6 f. and *NTS* 20, 38 ff. Linguistic material illustrating the phonemic type */CṚ-V-/ in the various IE dialects is given by Kuryłowicz, *ÉI*, 76, *Apophonie*, 120 f. and Lindeman, *Verschärfung*, 6f.[51]

M. C. Beckwith, *Glotta* LXXII, 24ff., argues that prior to the regular disappearance of prevocalic 'laryngeals' in non-Anatolian IE, a phonologically conditioned loss of *H_1 occurred—in the position after a resonant and before a following vowel—in compounds and reduplicated formations.[52] This 'Law of Laryngeal Loss' (ibid. 29), however, which finds no convincing support in Anatolian and non-Anatolian IE material, is clearly unjustifiable, see the detailed criticism by Lindeman, A 'laryngeal' note on Greek _hēûron_, _Glotta_ (forthcoming). See also Lindeman, ibid., for a refutation of Mayrhofer's phonologically untenable views (_IdgGr._ 1, 129 § 5.2.1.4.3) on the origin of Gk. _gígnetai_, Lat. _gignit_ as well as of the Vedic hapax _ápiprata_ 'has filled'.

---

[50] *Apophonie*, 170ff.; *IdgGr.* II, 224f., 243; *Problèmes*, 215.

[51] According to M. Fritz, *HS* 109, 1996, 1ff., a sequence **ṚHV* became **RV* (with a consonantal *R*) *in Proto-Indo-European*, by loss of the prevocalic 'laryngeal'. There is no evidence in any IE language that might substantiate this claim, however. Fritz's reference (p. 8) to Vedic 3 pl. *pṛṇánti* (: 3 sg. *pṛṇā́ti* 'fills') which he takes to come from **pḷn-énti* < **plṇ*H_1*-énti*, by his rule, is devoid of any probative force: the **pḷnH-énti* underlying Vedic *pṛṇánti* is an easily explainable analogic formation, see Mayrhofer, *IdgGr.* 1, 163. (For the *-ī-* of *pṛṇīmáḥ*, see Lindeman, *HS* 102, 1989, 284). It should further be pointed out that a sequence *RHV* is preserved as *aRhV* in Anatolian, cf. e.g. Hitt. *palhi-* 'broad' < **pḷH-i-* (: Lat. *plā-nus* < **pḷH-n-*), *parh-esk-* 'treiben, jagen' (< **pṛH-*). Consequently, there was no *Proto-Indo-European* loss of **H* in a sequence of the shape **ṚHV*.

The following forms would appear to presuppose the loss of presyllabic 'laryngeals':
Vedic _uvé_ < earlier *_u-ái_: Hitt. _uhhi_, IE *_Hu-_H_2_é(i)_, see § 34, and n. 48 above; Gk. _ébalon_ (< *_g_^{w}_ḷH-o-_), cf. _béblēka_, and see above § 19 a.; Gk. _ékamon_ (< *_k'm̥H-o-_), cf. Skt. _śamnīte_ (cf. § 19 a.); Umbrian imper. _kumaltu_ 'commolito' (< *_mal-e-tōd_), W _malaf_, Mid. Bret. _malaff_, Bret. _malañ_ and Old Armenian _malem_ 'crush' all go back to a 'meridional'

---

[52] Beckwith, ibid. 28 and notes 28, 29, without citing any linguistic material, does not rule out the possibility of an equally early loss also of *H_2 and *H_3 in compounds and reduplicated formations. Cf. also Normier, _KZ_ 94, 1980, 276, who cites the following Vedic forms _tuvi-grá-_ 'kräftig verzehrend' (?) (cf. Gk. _brō-_ 'eat'; but it should be stressed that Gk. _molobrós_ being etymologically obscure is no-probative), _kāma-prá-_ 'Wünsche erfüllend' (< _prā-_ 'fill'), _sú-ṣuti-_ 'an easy birth' (< _sū-_ 'beget'), _á-ni-śita-_ 'rastlos' (< _śī-_ 'lie'), _devá-tta-_ 'given by the gods' (< _dā-_ 'give') as evidence for his phonologic 'rule' according to which 'laryngeals' were lost '... im Inlaut eines Kompositum-Hintergliedes (außer nach den Vokalen *_e_, *_a_, *_o_) ...' in the parent language. Methodologically, however, material which is confined to one language only, does not authorize the _reconstruction of any Common Indo-European phonologic rule._ (For _kāma-prá-_ see Mayrhofer, _IdgGr._ 1, 129, who is right in pointing out that _-prá-_ may have been secondarily refashioned into an _a_-stem, cf. Vedic _ratna-dhá-_ ~ _ratna-dhā-_ 'Schätze verleihend'.). Also, it is an indisputable morphologic fact that _seṭ_-root forms do alternate with _aniṭ_-root forms in the parent language (cf. e.g. Lindeman, _HS_ 102, 292; A 'laryngeal' note on Greek _hēûron_, _Glotta_, forthcoming), and see below § 102. Since preconsonantal IE *_-iH-C-_ gives non-Anatolian IE *_-ī-C-_ in exactly the same way as IE *_-eH-C-_ yields non-Anatolian IE *_-ē_^{x}_-C-_, we would expect Normier's 'rule' to produce the loss of *_H_ also in compounds the last member of which was of the shape *_-eH-C-_. No explanation for the alleged difference is offered, however. Also, I know of no Anatolian linguistic material that might in any way substantiate the claim that 'laryngeals' were regularly lost in IE compounds and reduplicated verbal forms, cf. the preserved 'laryngeal' in reduplicated formations such as Luw. 3 pl. pres. _hishiyanti_ 'bind' (i.e. _hi-shiyanti_) and Hitt. 3 sg. pres. _lilhuwai_ 'pours' (i.e. _li-lhuwai_: unreduplicated _lahhuwai-_). Cf. Lindeman, op. cit., _Glotta_ (forthcoming).

thematic present stem of the shape _*mal-e/o-_ ‘grinds, crushes’ < IE _*mḷ-e/o-_ < orig. _*mḷH-e/o-_ (√_mel-H-_, cf. Vedic participle _mūr-ṇá-_ < _*mḷH-nó-_; Skt. pres. _tiráti_ ‘crosses’ (< _*tṛ_H_2_-é-_), cf. _tīrṇá-_ and Lat. _trans_;[53] Skt. pres. _sanóti_ ‘gains’, Gk. _anúō_ ‘effect’ (< _*sṇH-(e)u-_), cf. Hitt. _sanhhzi_ ‘approaches, asks for, etc.’ (_sa-an-ah-zi_, 1 sg. pret. _sa-an-hu-un_, _sa-an-ah-hu-un_).

It should be pointed out in this connection that the view held by some contemporary Celtic scholars[54] according to which e.g Old Irish _air_ ‘before, for’ presupposes a Proto-Celtic form _*arHi_ (< IE _*pṛHi_) where _ar_ is considered a special development of IE _ṛ_ in the position before a _preserved_ ‘laryngeal’ is erroneous: prevocalic _ar_, _al_, _am_, _an_ have a triple origin in all the languages of the south. (1) _*TṛH-V-_, _*TḷH-V-_, _*TṃH-V-_, _*TṇH-V-_: an illustrative example is the cited IE _*sṇH-V-_ > _*sṇ-V-_ attested by _han-V-_ in Gk. _hanútō_ ‘accomplish’; as indicated above, the Hittite cognate still preserves the ‘laryngeal’ in this verb stem: 1 sg. pret. _sanh-un_. (2) Initial _*Tṛ-V-_, _*Tḷ-V-_, etc., which have replaced original _*Tr-V-_, _*Tl-V-_, etc., in _aniṭ_-roots: the syllabic resonant here is due to the analogical model of _seṭ_-roots, cf. e.g. the _ar_ of OIr. _-mair_ ‘stays’ < _*mar-e-t(i)_ reflecting pre-Celtic _*mṛ-e-t(i)_ analogically created on the model of e.g. _*mal-e-t(i)_ ‘grinds, crushes’ < orig. _*mḷH-e/o-_ (see above). This analogical replacement of _*Tr-V-_, etc., by _*Tṛ-V-_, etc., attested by many indisputable examples in the languages of the south, inevitably presupposes the earlier loss of _*H_ in _*TṛH-V-_, etc., a fact which precludes any reconstruction of the type Celtic _*arHi_ < IE _*pṛHi_. OIr. _air_, like Gk. _páros_ ‘formerly’, simply presupposes a ‘meridional’ sequence _*pṛ-V-_ (from earlier _*pṛH-V-_). (3) Initial _*Tṛ-V-_, etc., for original **Tr-V-*, etc., in monosyllabic *aniṭ*-forms after a preceding heavy syllable according to Sievers’ Law: here **r* > **ṛ* identifies itself with the existing prevocalic **ṛ* < **ṛH-V-*. An illustrative example: Gk. *arḗn* ‘lamb, sheep’, Old Armenian *gaṙn* < **wṛēn*. See Lindeman, *Ériu* 44, 1993, 77f.

---

[53] Hitt. _tar-ah-_ ‘vanquish’ is probably from a different root, cf. Laroche, _RHA_ 16, 112, who connects _tarhu-_ (< _*ter_H_2_w-_), i.e. the root _tarh-_ plus an enlargement _u_, with Skt. _tarute, tūrvati_ ‘vanquishes’. However, he does not exclude the possibility of two homophonous roots: _*ter_H_2_-_ ‘cross’ (in Lat. _trans_, etc.) and _*ter_H_2_-_ ‘vanquish’ (in Hitt. _tarh-_, etc.). For Hitt. _tarhu-_ (also in _tarhu-ili-_ ‘victorious’) see Tischler, _HEG_ III, 1991, 157f., 164ff., and cf. Melchert, _AHPh._, 58, 306.

[54] See the discussion in P. de Bernardo Stempel, _Die Vertretung der indogermanischen liquiden und nasalen Sonanten im Keltischen_, Innsbruck, 1987, 45, and cf. K. H. Schmidt, On the reconstruction of Proto-Celtic, in G. W. Maclennan (ed.), _Proceedings of the First North American Congress of Celtic Studies_, Ottawa 1986, 233.

Vedic formations of the type *svastí-* ‘well-being, fortune’, *svápnas-* ‘rich’ (: *ápas-*) must frequently be pronounced with a syllabic resonant (*suastí-, suápnas-*) after a short as well as after a long preceding syllable. Lindeman, *NTS* 20, 99 ff., posits IE *su-*H_1*esti-*, **su-*H_3*epno-* (: Lat. *ops*, Hitt. *happin-ant* ‘rich’, see Laroche, *BSL* 58, 71 ff. and Szemerényi, *Glotta* 33, 275 ff.), and compares the development of **su-*H_1*esti-* into **suesti-* (Skt. *suastí-*) to that seen in **tṛ*H_2*-é-ti* > **tṛ-é-ti* (Skt. *tir-á-ti*). If this be accepted, such compounds give further support to Benveniste’s theory of the IE root according to which the original form of the verb **es-* ‘to be’ must be reconstructed as ***H_1*es-*, etc. (cf. § 29 above). At this point reference should also be made to Benveniste’s analysis of the Latin perfect type *ēmī* (: *emo*) as presupposing a reduplicated formation ***H_1*e-*H_1*m(ai)*, structurally comparable to the **de-d*H_3*-(ai)* underlying Lat. *dedī* (*ArchLing*. 1, 16 ff.). Thus, the original IE form of **em-* (Lat. *emo* ‘buy’, OIr. *em-* in *air-fo-em-* ‘receives’, Lith. *imù* ‘take’, etc.) would have been ***H_1*em-*.

§ 36 a. Kuiper, *India Antiqua*, 199, explains Gk. *émolon* (: *blṓskō* ‘go, come’), *éthoron* (: *thrṓskō* ‘spring’), *époron* (: *péprōtai* ‘it has/had been fated’, cf. further *peráō* and Hitt. *pár-ah-zi* ‘drives’) by assuming a particular ‘laryngeal’ umlaut in Greek: whereas IE **ṛ*, **ḷ* normally developed into Gk. *ar, al* (*ra, la*), the same resonants, when preceded or followed by ***H_3, supposedly gave Gk. *or, ol*. Lindeman, *Triple representation*, 54, suggests, however, that the forms in question in origin are *athematic* aorists, i.e. **étero*, **émelo* (with analogical **-o*, for **-a*, cf. § 87, *Remark* 2 below) < IE **é-ter*H_3*-t*, **émel*H_3*-t*, etc.; **étero*, **émelo*, etc. underwent the same metathesis that is usually assumed for **estérosa* > *estóresa* (cf. § 87, *Remark*) and gave *étore, émole*, etc. The latter were reinterpreted as thematic formations. A similar explanation was proposed by M. Peters, *Untersuchungen*, 30. Otherwise Kuryłowicz, *Apophonie*, 207 f., *Problèmes*, 188.

According to Kuiper, *India Antiqua*, 202, and *Sprache* 7, 15, a particular kind of 'laryngeal' umlaut must also be recognized for cases like Skt. _tīrná-_ which he takes to come from older *_tirH-ná-_ (: _tárati_), cf. _śímī-_ 'labour, work', _śímīvant-, śimyati_ 'toils' (: _śámī-_ 'labour'). However, Skt _īr_ may be a direct reflex of */_r̥̄_/; see § 100, below, for IE */_r̥̄_/, etc. For _śímī(vant-)_ vis-à-vis _śámī-_, see also Renou, _Grammaire Védique_, § 24, n. 4: 'Influence possible de l'échange _ir/r_.' For Kuiper's hypothesis, cf. also the discussion by Strunk, _PICL_ 11, 375 ff.

Remark: In a series of articles[55] K. Strunk has attempted to justify the assumption of a phonetic development of *_-lə̯_$_x$_-_ to Gk. _-oli-_ in interconsonantal position, e.g. in _dolikhós_: Skt. _dīrghá-_ 'long', and in (Hesiod) _(am-)boli(-ergós)_ 'putting off work': _blē-_. The symbol *ə̯$_x$ signifies here a 'laryngeal' 'welcher gewisse Ähnlichkeiten mit dem _e-_färbenden Laryngal hat, aber nicht unbedingt damit identisch ist.' (_PICL_ 11, p. 377). However, Strunk has not been able to determine the exact conditions that allowed *_-lə̯_$_x$_-_ to develop differently in Greek from (interconsonantal) *_-l̥H-_ > _-lā-_ (e.g. Ion.-Att. _lênos_ < Proto-Gk. *_wlānos_ 'wool': Lat. _lana_, see below § 49, n. 98; Gk. _tlētós_: Lat. _(t)latus_), or _-ala-_ (e.g. _palá-mē_ 'palm of the hand', Lat. _palma_ < *_pala-mā_). Strunk's *ə̯$_x$, which has left no trace in combination with the other resonants in Greek, seems to be weakly motivated. Normier, _KZ_ 91, 1977, 184, n. 30, writes: 'Doch ist hier ə̯$_x$ nichts anderes als *H_1. Die Unstimmigkeit zwischen idg. _l̥_H_1, _m̥_H_1 > gr. _oli_, _omi_ und idg. _l̥_$H_{2/3}$, _m̥_$H_{2/3}$ > gr. _lā/ō_, _mā/ō_ entspricht der Unstimmigkeit zwischen _i_H_1, _u_H_1 > gr. _ī_, _ū_ und idg. _i_$H_{2/3}$, _h_$H_{2/3}$ (_sic_! for _u_$H_{2/3}$) > gr. _i̯ā/ō_, _u̯ā/ō_ ...' Since, however, there is no _raison d'être_ for the Greek sound changes assumed by Normier (*_i_H_2 > _yā_, etc.), his proposed identification of Strunk's *ə̯$_x$ with IE *H_1 is equally unjustifiable: see below § 49 e., for a detailed criticism of Normier's hypothesis. Referring to Strunk's hypothesis, Vine, _HS_ 106, 1993, 55f., suggests that the _-i-_ of Gk. _-ískō_ verbs be considered a regular reflex of a 'vocalized' *H_1, i.e. (schematically) IE *_TR̥_H_1_-sk'e/o-_ > Gk. *_ToRiske/o-_. The Greek _-ískō_ verbs themselves do not offer any direct evidence for such a development, however. Further, the assumption of a 'vocalization' of the consonant *H_1 in the position after a vocalic resonant is clearly unjustifiable, phonologically, see above § 19 a.

Assuming that *H_1 palatalized preceding consonants _in Greek_, Ruipérez[56] teaches that IE *_pl̥_H_1_-s_ (cf. Vedic _pūr_ 'wall, rampart'), acc. sg. *_pl̥_H_1_-m_ gave Gk. *_p'l̥'_H_1_-s_, *_p'l̥'_H_1_-m_, whence, by depalatalization of the resonant, *_p'l̥_H_1_-s_, *_p'l̥_H_1_-m_ > *_pyl̥_H_1_-s_, *_pyl̥_H_1_-m_ > _ptóli-s_, _ptóli-n_: for _pt-_ < *_py-_ < *_p'-_ Ruipérez (p. 163) refers to Gk. _kléptō_ < *_klépyō_. This is unconvincing for a number of reasons, however. Firstly, in a form of the shape *[_pl̥_H_1_-s_] there is no reason whatever to expect a 'vocalization' of the consonant *H_1 in the position after a _vocalic_ *_ḷ_. Secondly, the acc. sg. _ptóli-n_ cannot be the regular outcome in Greek of IE acc. sg. */plH$_1$-m/ which—according to § 48—was phonetically *[_pḷ_H_1_-ṃ_], a form in which the consonant *H_1 would have been lost at an early stage in the position before the vocalic final *_-ṃ_. Thirdly, there is no linguistic evidence available that could show that *H_1 did in fact palatalize preceding consonants in Greek: the idea (p. 163) that aor. _(é-)peson_ is from *_petyom_ < older *_pet_H_1_om_ is inconclusive, cf. Dor. Aeol. _épeton_.

---

[55] _Glotta_ 47, lff.; _MSS_ 28, 109 ff.; _PICL_ 11, 376 ff.; _Studies Palmer_, p. 398.

[56] See Ruipérez, _The History of the Greek Language in Cyprus_, ed. J. Karageorghis and O. Masson, Nicosia, 1988, pp. 153-166.

§§ 37 'Laryngeals' in the position after a non-syllabic and before a syllabic sound

§ 37 In this position the 'laryngeals' are lost in the non-Anatolian IE languages, but traces of them are sometimes found in the preceding consonant or semi-vowel (*_y_, *_w_), cf. §§ 55 f., 73 f., 76 f.

Examples: Luw. (1 sg. pret.) _ta-pár-ha_ (from _tapar-_ 'gouverner') the ending of which corresponds to Lyc. _-χa_ (above § 21, cf. Hitt. _-hun_)[57] and the non-Anatolian 1 sg. perfect ending *_-a_ seen in Skt. _véda_, Gk.

---

[57] For the origin of the Hitt. ending _-hhun_ see the discussion by Benveniste, _HEI_, 16ff. Phonologically wholly incredible is Jasanoff's suggestion (_TIES_ 2, 1988, 73f.) that _a pre-PIE sequence_ of the shape *_-óHe#_ (´ = accent) yielded _PIE_ *_-óHu#_, by regular sound change, e.g. 3 sg. perfect pre-PIE *_(s)te-stó_H_2_-e#_ (from √_ste_H_2_-_ 'stand') > PIE *_(s)te-stó_H_2_-u#_, allegedly attested by Vedic _tastháu_. Similarly, according to Jasanoff, the element _-hhu_ of the 1 sg. pret. _-hhun_ in Hittite finds its ultimate source in pre-PIE perfect forms in *_-óH-e#_. It is quite clear, however, that the PIE qualitative ablaut would have changed a _pre-PIE_ sequence such as *_-óHe#_ to _PIE_ *_-óH#_, by regular loss of the unaccented final short *_-e#_: that the perfect endings (of the singular) must have been originally accented was pointed out a long time ago by Kuryłowicz, _Apophonie_, p. 42: 'La conservation du vocalisme plein des désinences _-əa_, _-t(ə)a_, _-e_ (ou _-o_), par opposition à _-m_, _-s_, _-t_ du présent-aoriste, parle en faveur de la supposition qu'il s'agit d'éléments à l'origine accentués, un déplacement morphologique de l'accent ayant eu lieu seulement après l'époque de l'affaiblissement et de la disparition du vocalisme final.' Further, as there is absolutely no way of proving that a PIE short unaccented *_-e_ in absolute final position—e.g. in a PIE vocative like *_wḷ́kwe_ > OCS _vlьče_ (from _vlъkъ_ 'wolf')—is 'itself often the result of the weakening' of an earlier short unaccented *_-o_ (ibid. 74), Jasanoff's idea that the _original_ pre-PIE perfect forms (in the singular) of a root of the shape *_ste_H_2_-_ should be reconstructed with a final *_-o#_ (e.g. 1 sg. *_(s)te-stó_H_2_-o#_ (< *_(s)te-stó_H_2_-_H_2_o#_, by 'cluster simplification', ibid. 73), deserves no merit.

oîda. The IE form of the ending in question can be posited as *-H_2*e*.[58] Hitt. *e-es-har, is-har* 'blood', gen. sg. (Old Hittite) *is-ha-na-a-as*, Luw. part. nom. plur. *a-as-har-nu-um-ma-in-*z[*i*] from the verb *asha(r)nu-* = Hitt. *esha(r)nu-* 'ensanglanter' (Laroche, *DLL*, 33). The gen. sg. Hitt. *esnas*, which shows no trace of the 'laryngeal' found in the nom. acc. sg. form *eshar*, was considered 'old' in Lindeman, *EL*, 47, since it seems to correspond to Vedic *asnás* (not **asinás*), gen. sg. of *ásṛk* 'blood'. However, G. Hart, *BSOAS* XLIII, 10 f., and n. 27, suggests that Old Hitt. *is-ha-na-a-as*, the *i-* of which 'must represent a reduced or even zero grade version of the radical vowel when unaccented', may have lost its *-h-* in interconsonantal position, and that the *e*-vocalism seen in *e-es-na-as* may have been taken over from the nom. acc. sg. form. Cf. § 21, n. 11 above. Similarly, Puhvel, *HED* 1-2, 313, considers Hittite forms without *h* (*ēssar, ēsnas*) 'clearly secondary, probably originating in new allomorphic environments such as /eshnas/, with *h* secondarily trapped and lost in nonvocalic surroundings.' For a different opinion see Mayrhofer, *IdgGr*. 1, p. 132, n. 141, with references. For Skt. *asnás*, see § 102 below, cf. *Triple representation*, 15, n. 6.

§ **37 a**. Hoenigswald, in an article entitled 'Laryngeals and *s* movable', *Lg*. 28, 172 ff., is of the opinion that prevocalic 'laryngeals' in the position after an initial **s-* were lost at a very early date 'before the difference of *e* and *a* had become distinctive—that is, in the IH period.' (IH = Indo-Hittite). This hypothesis is based mainly on 'root-etymologies'. We quote here some of the better examples: Skt. *ákṣi*

---

[58] In *SymbGramm*, 103, Kuryłowicz took the Skt. forms (1 sg.) *cakára* and (3 sg.) *cakā́ra* (perfect of *kṛ-*) to represent *k^w*e-*k^w*ór-*H_2*e* and *k^w*e-*k^w*ór-e*, respectively. Whereas the *-*o*- of the 3 sg. had become Skt. -*ā*- in an open syllable (according to Brugmann's Law), the radical short -*a*- of the 1 sg. was supposed to be the regular outcome of an IE *-*o*- in an originally closed syllable. The same phonetic development was assumed for causative formations like *janáyati* (: *jan-* 'generate') < **g'onH-éye/o-* (structurally parallel to e.g. *vartáyati* < **wort-éye/o-*) vis-à-vis *pādáyati* < **pod-éye/o* (: root *pad-* 'go'). Kuryłowicz later (in *Apophonie*, 330 and 336 f.) withdrew this explanation with the following observation: 'Si ə̭ y était pour quelque chose, les racines set comme **g'enə̭-* n'allongeraient pas la voyelle à la 3e p. sing. (**g'eg'ónə̭-e* > **jajána*, tandis qu'on ne rencontre que *jajāna*)' (p. 337). Ibid., § 43, he proposes a morphologic interpretation of the forms in question. Other scholars frequently regard the -*ā*- of *jajāna* as analogical.

'eye', Gk. _ósse_ 'the two eyes', Arm. _akn_ 'eye': Goth. _saih^{w}an_ 'see', i.e. IE *H_3ek^w-/*$s(H_3)ek^w$-, cf. the type Gk. _tégos/stégos_; OHG _ano, ana_, OPruss. _ane_, Lat. _anus_, Hitt. _hanna-_ 'grandmother' (cf. § 25 above) : Skt. _sána-_ 'old', Gk. _hénē kaì néa_, Lat. _senex_, OIr. _sen_, etc. (IE *H_2en-/*$s(H_2)en$-). Hoenigswald's hypothesis, however, is in conflict with Hittite forms of the type _ishamai-_ 'song', _ishamaiskizzi_ 'sings' (: Vedic _sāman-_ 'song' and Gk. _oímē_ 'song', _oîmos_ 'melody' < *_sHom-yo-_)[59] with *_H_ preserved in the initial sequence *_sH-_ + vowel (cf. also Polomé, _EvfL_, 32).

Recently, Hoenigswald, _Festschrift Szemerényi_ III, 119ff., tries—unsuccesfully—to explain away the Hittite evidence for word-initial IE *_sH-_. In my view, the equation Hitt. _ishiya/e-_ 'binds' = Vedic _s(i)yá-_ 'binds' constitutes an irrefutable piece of evidence for the existence in the parent language of word-initial *_sH-_: IE */sHyó/é-/ would be realized—according to Sievers' Law—as *[_sHió/é-_], which, after the loss of the prevocalic *_H_, would give non-Anatolian IE *_sió/é-_, whence Vedic _siá-_ (e.g. RV IX, 95, 5 _ví ṣia_, X, 30, 11 _ví ṣiadhvam_). For _ishanittarātar_ '(marital) alliance' and other Hittite words which belong here see Puhvel, _HED_ 1-2, 395f., Melchert, _AHPh._, 111.[60] It should also be noted that the vocalism of Hitt. (nom. acc. pl.) _sa-(a-)ku-wa_ 'eyes' is puzzling since Hoenigswald's explanation makes us expect *_sekuwa_ from orig. *$s(H_3)ek^w$- as in Goth. _saih^{w}an_. (_sakuwa_ < *$s(H_3)ok^w$- with *_o_ < *_e_ by qualitative ablaut ??).

According to Lindeman, _BBCS_ XXX (1983), 304, n. 11, Hitt. _swais_ 'bird', written _su-wa-is_, may be from *$sH_3wóy$-_s_ (: Skt. _véh_ 'bird' < *$H_3wóy$-_s_) with _s_-mobile and a _voiced_ 'laryngeal' *$\underset{\cdot}{H}_3$ which seems to disappear in this language (cf. § 29 above). In non-Anatolian IE, the stem forms (full grade) *_sH$_3$we/oy-_, (zero grade) *_sH$_3$wi-_ (cf. *_H$_3$wi-_ in Skt. nom. sg. _ví-ḥ_, acc. _ví-m_, dat. pl. _víbhyas_) would have been realized phonetically as *_sH$_3$uwe/oy-_ and *_sH$_3$uwi-_, respectively, after a long preceding syllable (in accordance with Sievers' Law), whence, after the loss of the now prevocalic 'laryngeal', *_suwe/oy-_ and *_suwi-_. The latter forms would have been reduced (by the 'converse of Sievers' Law') to *_swe/oy-_ and *_swi-_ after a short preceding syllable. A form *_swi-_ may have survived in Celtic *_swiy+ato-_ > Brit. *_swiyat-_ > *_hwiyad-_, seen in W _hwyad_ 'duck', NW _chwïadan_. For the vocalism of Lat. _auis_, see § 40 a. below. The reconstruction of an initial _o_-colouring 'laryngeal' in 'bird' is justified by the initial _o-_ of Gk. _oiōnós_ 'a bird of prey' (< *_H$_3$ewy-_). Oettinger, _Festschrift Strunk_, 219, n. 23, reconstructs the original nom. sg. of 'bird' as IE *_(s)H$_2$wō[y]_ supposing (wrongly) that *_H$_2$_ was regularly lost before *_wo_, *_wō_ in the parent IE language, cf. below § 69 a. For another explanation of Hitt. _su-wa-is_, see Schindler, _Sprache_ 15, 159 (with references), who speculates whether the _s-_ of _swais_ might not be a regular Hittite reflex of an initial IE 'laryngeal', cf. Oettinger, _Stammbildung_, 549, n. 13. However, there exists no non-ambiguous linguistic material which might support this suggestion: a form such as Hitt. _sanku(wa)i-_ 'fingernail' may, like _swais_, have an *_s_-mobile, i.e. _sanku-_ < *_s-H$_3$onghw-_ (or zero grade *_s-H$_3$n̥ghw-_) ~ *_H$_3$onghw-_ in Lat. _unguis_ 'nail'.

---

[59] Puhvel _HED_, 395, referring to Beekes' observation (_Sprache_ 18, 127) that we would expect *_sHom-yo-_ to have become Gk. *_hoino-_, cf. _baínō_ < *g^w_m̥-yō_, suggests that _oîmos_ may come from *_sHoy-_, a variant form of the same root, plus *_-mo-_.

[60] There is no _Hittite_ evidence to support Melchert's _ad hoc_ assumption (_StHHPh._, 99) of a dissimilatory loss of the initial 'laryngeal' in the reduplicated *_Hí-sHi-_ (cf. Luw. _hishiya-_ 'bind') which he reconstructs as the preform of Hitt. _ishiya-_. For the Luwian form see Puhvel, _HED_ 1-2, 402: 'Luw. 3 pl. _hishiyanti_ shows an intensive reduplication characteristic of Luwian verbs (cf. e.g. _pipissa-_, _wiwidai-_; ...), repeating the second consonant of an initial cluster with _s-_ (cf. Skt. _tíṣṭhati_); ...'

§§ 38-46 'Laryngeals' in the position after a full grade vowel and before a non-syllabic sound (or in word-final position)

§ 38 In the non-Anatolian languages the 'laryngeals' disappear in these positions entailing a compensatory lengthening of a preceding short full grade vowel, i.e. (1) *-e^x_H-C_ > *-$\bar{e}^x$-_C_, and (2) *-e^x_H#_ > *-$\bar{e}^x$#.[61]

§ 39 Thus, the sequence *-_eH$_2$-_ gives Anatolian _-ah(h)-_, but *_-ā-_ in the non-Anatolian dialects, cf. the Hittite factitive type _newahh-_ (1 sg. pret. _ne-wa-ah-hu-un_), from _newa-_ 'new' vs. Lat. _nouāre_, OHG _niuwōn_, Gk. _neân_ (IE _*newe-H_2-_ 'to make new'); Hitt. _pa-ah-ha-as-mi_ (i.e. _pahhs-mi_) 'I protect' vs. Lat. _pāsco, pāstor_, OCS _pasti_ 'to pasture' (IE _*peH_2s-_); Hitt. _nah(h)-_ 'to fear' (pres. 1 sg. _na-ah-mi_, part. _na-ah-ha-an-za_), _nah(h)sariya-_ 'to fear', _nahsariyawant-_ 'timid', _nahsaratt-_ 'fear' vs. OIr. _nár_ 'diffident' (_*nā-sr-o-_), _náire_ 'diffidence' (< _*nā-sr-iyā_); the IE preforms can be posited as _*neH_2-_ and _*neH_2sr-_.

---

[61] For a refutation of Lubotsky's untenable views (_MSS_ 40, 133f.) according to which the 'laryngeals' were lost before unaspirated voiced stops + a consonant in Indo-Iranian see Lindeman, _HS_ 102, 271.

Remark: For the double writing of _h_ between vowels in Hittite see § 92 below.

§ 40 As already noted in § 26 above, a development of _*H_2o-_ (with _*o_ < _*e_ by qualitative ablaut) into _*o-_ in non-Anatolian IE is difficult to justify. Similarly, there is no conclusive evidence for the frequently assumed change of IE _*-oH_2-_ to _*-ō-_ outside Anatolian. Examples like Gk. _phōnḗ_ 'sound' (: _phāmí_) and _bōmós_ 'altar' (: root _bā-_ 'go') permit other explanations.[62] Equally doubtful is the 1 sg. pres. ending _*-ō_ (Gk. _phérō_, etc.) for which Cowgill, _EvfL_, 146, posits a preform _*-oH_2_ (with the same 'laryngeal' that appears in the 1 sg. perfect ending _*-H_2e_; cf. also Kuryłowicz, _SymbGramm_, 103, n. 2 (_*bhero-ə$_2$_). For an alternative explanation of the _*-ō_, see § 34. Cf. also Hirt, _IdgGr._ 4, p. 145. For Cowgill's unverifiable speculation that 1 sg. _*-ō_ may come from pre-Indo-European _*-omi_, see _Fachtagung_ VII, 108.

C.J. Ruijgh, _Lingua_ 26, 190 ff., tries to motivate a phonetic change of _*H_2o_ to _*H_2a_. His conclusions are accepted by E.P. Hamp, _MSS_ 37, p. 62.[63] However, if _*H_2_ was a velar fricative (see below, § 95), it is difficult to see how it could lower and unround an *o* to *a*. See Cowgill, *EvfL*, 146.

---

[62] Pedersen, _KZ_ 38, 403, connects _phōnḗ_ with OCS _zvonъ_. Another possible etymological connection could be found in the root _*bhen-_ attested by Skt. _bhánati_ 'speaks; sounds'. Hirt, _IdgGr._ 2, 183, takes _bōmós_ to go back to _*g^{w}ōm-os_, from the root _*g^{w}em-_. For Kuryłowicz's explanation of _phōnḗ, bōmós_, see _Apophonie_, 186, cf. Lindeman, _Triple representation_, 27 f.

[63] F. Kortlandt, _Lingua Posnaniensis_ 23, 127 f., agrees with Ruijgh that _*H_2_ coloured a contiguous _*o_ to _a_ in Greek, but he thinks (p. 128) 'that the relevant instances do not date back to the Indo-European protolanguage. The simplest solution is that the opposition between the laryngeals was neutralized in the neighbourhood of PIE. _*o_, where they merged into _*H_3-_ and that _*H_2_ was restored in certain productive categories

§ **40 a.** As we can see, there is no *consensus omnium* regarding the treatment of a supposed sequence $*H_2o$ (with **o* < **e*, by qualitative ablaut) in non-Anatolian Indo-European: the available linguistic material being far from non-ambiguous does not authorize us to draw any definite conclusions from it, cf. the discussion in § 26. There it was also argued that a distinction between the Hittite reflexes of IE $*H_2e$ and a supposed ablauting sequence $*H_2o$ is no longer possible (since IE **o* gives Hitt. *a*). For a rejection of the view according to which IE **a* and **o* remained phonemically distinct in Proto-Anatolian, see the critical discussion below § 40 b.

It will be assumed here that the ablaut **e* > **o* arose while the contrast between **e* and **a* (in the sequences $*eH_1$ and $*aH_2$) was still phonetic: since, according to this view, the ablaut in question occurred later than the colouring of */e/ to *[*a*] by a neighbouring $*H_2$, it could not affect the */e/ of $*/\mathrm{eH_2}/$ which had already been changed to *[*a*], an allophone of */e/, see *Triple representation*, p. 25 with further references.

The following may illustrate what we have just been saying. It is generally assumed, doubtless correctly, that the flexion seen in the Vedic type *vṛkī́ḥ* 'she-wolf' (: *vṛ́ka-* m.), gen. sg. *vṛkíyaḥ*, cf. OIcel. *ylgr*, is built on a generalized zero grade of the suffix $*\text{-}yeH_2$- found in the equally old type Vedic *devī́* 'goddess' (: *devá-* m.), gen. sg. *dev(i)yā́ḥ*. The gen. sg. of the word for 'she-wolf' may accordingly be

---

in Proto-Greek'. Thus, *agós* 'a chief' would be from $*H_2ogós$ with a restored $*H_2$ on the analogy of *ágō* < $*H_2ég$-. Kortlandt's hypothesis seems to be *une vue de l'esprit* since the supposition of a restoration of $*H_2$ in certain productive categories in Proto-Greek and the assumption that a distinct $*H_2$ could colour a neighbouring **o* to **a* at this relatively late stage are entirely gratuitous. As pointed out in § 39, it is Gk. *neân* which continues the IE factitive type $*newa\text{-}H_2$- (Hitt. *newahh-*). Despite Ruijgh, *Fachtagung* VIII, 82, cf. *Laryngaltheorie*, 449, there is no way of proving that *ne(w)ô-*[*sai*] (aor.) 'renew' represents $*newo\text{-}H_3$- < original $*newo\text{-}H_2$- (according to Kortlandt's hypothesis); for the Gk. type in *-o-yō*, aor. *-ōs-e*, attested already in Mycenaen Greek, see Szemerényi *Einführung*, 296.

reconstructed phonemically as */wlk^{w}yH_2es/. This form would be realized phonetically as *[_wḷk_^{w}_i_H_2_as_] with colouring of */e/ to *[_a_] by the neighbouring *H_2: the *_a_ here would not have been affected by the ablaut *_e_ > *_o_[64] since the latter occurs later than the colouring of */e/ to *[_a_] in the vicinity of *H_2. We would expect the sequence *-_i_H_2_as_ to have developed into *-_i_(_y_)_as_ after the loss of the intervocalic 'laryngeal' in the IE dialects outside Anatolian. A genitive of this type in *-_i_(_y_)_as_ survives in the OIr. gen. sg. in -_e_ seen in *-_ī_-, *-_yā_- and *-_ā_-stems (of the type _séitche, soilse, túaithe_: _sétig_ 'wife', _soilse_ 'light', _túath_ 'tribe'). See Lindeman, _ÉC_ XIX (1982), 159 f.

Similarly, a formation like Gk. _agós_ 'a chief', in which one might expect an *_o_-grade (cf. _tomós_: _témnō_)[65] goes back to *[H_2_ag'_-́] (< */H_2eg'-́/), the [_a_] of which has not been affected by the subsequent ablaut *_e_ > *_o_.

A further example is the (intrans.) perfect of Gk. _ágnūmi_ 'break', i.e. _we-wāg-e_, attested by Ion. _éēge_, Hs. _éāge_, Sappho _éāge_,[66] a morphologic formation in which one might expect an *_o_-grade in the root syllable (cf. _dédorka_ : _dérkomai_). If the underlying verb stem is to be posited as *_we_H_2_g_- for Indo-European,[67] Gk. _we-wāge_ would reflect IE *[_we-wa_H_2_g-e_] (= */we-weH_2g-e/), the *_a_ of which, according to our rule, could not be affected by the subsequent ablaut *_e_ > *_o_.

There seems to be no way of deciding whether the ablaut *_e_ > *_o_, the origin of which remains unexplained, is to be placed chronologically before or after the zero grade, cf. also § 101. For traces of the ablaut *_e_ > *_o_ in Anatolian, see § 96.

---

[64] The gen. sg. ending of IE consonant stems appears as *-_es_ (Lat. _pedis_) and (with qualitative ablaut) as *-_os_ (Gk. _podós_).

[65] See Lejeune, _Phonétique historique_, p. 203, note 3.

[66] See R. Hiersche, Zu Sappho 2,9D.[2] _kàm mèn glôssa éāge_ "die Zunge ist gebrochen", _Glotta_ XLIV, 1967, 1-5.

[67] Puhvel, _HED_ 3, 382, takes Hitt. _huni(n)k_- 'batter, bash, crack' to be cognate with Gk. _(w)ágnūmi_. If so, we would have to reconstruct the nasal present underlying the Hittite verb as *_Hu_H_2_-né-g-_.

Remark: According to R.S.P. Beekes, _Sprache_ 18, 117 ff., Gk. _oûs_ 'ear' < _*H$_{2}$ows-_ is the regular _o_-grade of the _*H$_{2}$ews-_ seen in Lat. _auris_. However, taking the third 'laryngeal' to have been a rounded fricative (e.g. _*x^{w}_, cf. § 95), we can follow Martinet, _Économie_, p. 229, in positing _*x^{w}ews-_ (Gk. _oûs_) > _*x$^{(w)}$ews-_ (through a dissimilation of labiality) for the _*aws-_ underlying Lat. _auris_. The postulated dissimilation may have occurred either at a stage when *[_a_] and *[_o_] were still allophones of */e/, or even before the colouring of */e/ to *[_a_] or *[_o_] in the vicinity of _*H$_{2}$_ or _*H$_{3}$_. Similarly, we can posit IE _*x^{w}ewy-_ 'sheep' (seen in Gk. _ówi-_, Lat. _ouis_, OIr. _oí_, cf. above § 27) > _*x$^{(w)}$ewy-_ (through dissimilation) for the _*xaw-_ (_x_ = _*H$_{2}$_) underlying Luw. _hawi-_, Lyc. _χava-_, cf. Lindeman, _HS_ 103, 1990, 21. Skt. _ávi-_ 'sheep' may likewise reflect a dissimilated _*x$^{(w)}$ewy-_; alternatively, it may have _a-_ through analogical influence from oblique cases like the gen. sg. _ávyaḥ_ (_*x^{w}ewy-e/os_), cf. Lindeman, _Triple representation_, 26. According to Lindeman, _Studia Etymologicae Indoeuropaea Memoriae A. J. Van Windekens dicata_, Leuven, 1991, 177f., the Proto-Tocharian _*āwi-_ fem. 'female sheep', identified by K.T. Schmidt, _Studien zum indogermanischen Wortschatz_, Innsbruck 1987, 287f., and attested by Toch. B sg. _*āw-_, pl. nom. _awi_ (accented on the final syllable) reflects _*awi-_ < dissimilated _*x$^{(w)}$ewy-_ rather than an otherwise unattested lenghthened grade _*ōwi-_ as K. T. Schmidt, ibid. p. 288, suggests.

Other examples: Lat. _auis_ 'bird' < _*x$^{(w)}$ewy-_ vs. Gk. _oiōnós_ (without dissimilation); Gk. _aieí_ < _*x$^{(w)}$eyw-_ vs. Skt. _āyu-_ (< _*x^{w}eyw-_); Gk. _amnós_ 'lamb' < _*x$^{(w)}$eg^{w}nos_ vs. OIr. _úan_ (without dissimilation). Cf. also Lindeman, _HethIdg._, p. 156, note 30, _Triple representation_, 25 ff. For Arm. _keam_ 'I live' < _*g^{w}iex$^{(w)}$-_ vs. Gk. _biō-_ < _*g^{w}iex^{w}-_, see Lindeman, _REArmNS_ 15, 19 f. Cf. also § 86 below. Lindeman, _Triple representation_, p. 68, accounts for the _a_-vocalism of the _*ast-_ underlying OCorn. _asen_ 'costa', W. _as_(_gwrn_) 'id.' and also OIr. _asna_ 'rib', nom. pl. _asnai_, gen. pl. _asna_, by assuming a dissimilation of labiality in _*x^{w}est-_ (Gk. _ostéon_) > _*x$^{(w)}$est-_ in certain sandhi situations, e.g. in sentences where the word _*x^{w}est-_ 'bone' was immediately preceded by the 'sentence connective' _*nu_ (Hitt. _nu_, OIr. _no_), i.e. _*nu x$^{(w)}$est-_ > _*nu ast-_, cf. Hitt. _nu ha-as-ta-i-si-_[_ti_]_-it QA-TAM-MA ma-al-la-an-du_ 'und seine Knochen ebenso zermahlen' (_StBoT_ 22, p. 10).

§ 40 b. According to Melchert, IE _*a_ and _*o_ remained phonemically distinct in Proto-Anatolian, see _Fachtagung_ VIII, 1992, 41ff., _AHPh._, 51, 146 (with further references). Taking scriptio plena to mark only synchronic vowel length in Hittite,[68] Melchert teaches that IE accented short _*o_ in _closed_ syllables was lengthened, at some prehistoric stage of

---

[68] I would like to stress here that I do not accept the as yet unverified claim that scriptio plena marks synchronic vowel length only: it seems extremely plausible that plene-writing does not indicate vowel length, but is historically connected with IE paradigmatic accent variation (see below § 92, _Remark_).

Hittite, to *ō which, after the later merger of *ō with *ā, was written as plene *ā*. Melchert further believes that IE *H_2 had no colouring effect on a following (or preceding) **o*, see Melchert, *JIES* 21, 1993, 238. If so, it should be possible to reveal traces of an IE ablaut alternation of the type (accented) *H_2*é* (> *H_2*á*) ~ *H_2*ó* > Hittite *ha* ~ *hā* in closed syllables. Such an assumption is in no way borne out by the existing Hittite material, however. Thus, there is no objective way of proving that e.g. 3 sg. pret. act. *hāzta* (from *hat*- 'dry up', cf. § 25) *must* presuppose IE (schematic) *H_2*ód-t( )* rather than *H_2*éd-t( )* > *H_2*ád-t( )* > non-Anatolian IE **ad*-, cf. Gk. *hē* (i.e. *aígeiros*) *mén t' azoménē keîtai* 'and it (i.e. the poplar) lies drying' (*Iliad* 4. 487). Likewise ambiguous is Hitt. *hāssa*- (*hassa*-) 'offspring': Melchert, *AHPh.*, 163, takes this to come from *H_2*ónso*-, whereas Puhvel, *HED* 3, 217, chooses to reconstruct *hāssa*- as IE *E_2*omso*- (E_2 = voiced *e*-colouring 'laryngeal') connecting it with the IE word for 'flesh' (Skt. *mās*-, Arm. *mis*, etc.): as long as the etymology of *hāssa*- (*hassa*-) remains uncertain, the question of the quality of its initial 'laryngeal' must likewise remain unsettled.

The degree of uncertainty inherent in this hypothesis can best be seen by referring to S. Kimball's view (see the references given in Melchert, *AHPh.*, 117) according to which also short accented **á* was lengthened in closed syllables in Hittite. A counterexample to Melchert's hypothesis is Hitt. *ha-a-an-za* 'in front' which—according to Melchert—reflects IE *H_2*ánti* (see *AHPh.*, 117). For Hitt. *happar*, *happir*- n. 'business, trade, etc.' see above § 27.

To sum up: as far as the present writer is able to judge, there is no way of proving that Hitt. *hā*- (*ha-a*-) in closed accented syllables goes back exclusively to an IE sequence *H_2*ó*- (< *H_2*e*-, by qualitative ablaut). Consequently, Hittite forms like *hāzta*, *hānza*, etc. cannot be considered an argument against our teaching according to which the ablaut **e* > **o* occurring later than the colouring of */e/ to *[*a*] by a neighbouring *H_2, could not affect the */e/ of */$\mathrm{H_2}$e/ which had already been changed to *[*a*], an allophone of */e/.

Remark: For a critical discussion also of the Lycian lingusitic material cited by Melchert in support of his claim that IE **a* and **o* remained phonemically distinct in Proto-Anatolian, see Lindeman, Indo-European and Proto-Anatolian Vowels: a phonologic Remark, *ActOr.* (forthcoming). Lindeman, ibid., also questions the claim that the contrast between Hitt. _tu-wa-a-an_ 'hither' (allegedly reflecting *_dwān_ < IE acc. sg. *_dweH$_2$m_, with preserved _w_, cf. Gk. _dḗn_ 'for a long while; long ago') and _ta-a-an_ 'twice' (< IE *_dwoyom_, with loss of _w_ before the following *_o_) testifies to a pre-Hittite distinction of *_a_ and *_o_.

§ **41** In a few forms we find a Hittite _-a-_, unaccompanied by _-h_(_h_)-, corresponding to a non-Anatolian IE *_-ā-_. In accordance with what was said in § 28 above, we may account for such cases by positing a voiced _a_-colouring 'laryngeal' (*_Ḥ$_2$_).

The Anatolian evidence for *_-eḤ$_2$- > -a-_ is meager:[69] Hitt. _tayezi_ 'steals' (_ta-_(_a-_)_i-e-iz-zi_) = Gk. _tētáomai_, OCS _tajǫ_, Skt. _stāyú-_, _tāyú-_ 'thief' (IE *(_s_)_teH$_2$-ye/o-_; cf. Pokorny, _IEW_, 1010);[70] Hitt. thematic neuter pl. in _-a_ (= Luw., Palaic _-a_), cf. _dan-na-at-ta_ 'empty' = Skt. _-ā_ (type _priyā́_ 'dear'), etc. (IE *_-eḤ$_2$_). According to Puhvel, _Kuryłowicz Memorial Volume_ I, 177f. (with further references), Hitt. _tarna-_ 'let go, launch' and _kinai-_ 'sift, sort, fritter' represent IE *_tṛneH$_2$-_ (cf. Lat. _intrāre_) and *_kineH$_2$-_ (cf. *_kyeH$_2$-_ > *_kyā-_ in Gk. _dia-ttáō_ 'sift'), respectively. Should this be accepted, we could have here examples of IE (voiced) *_Ḥ$_2$_ > Anatolian _zero_. Further, if the Hitt. forms _sakai-_ 'omen', _sakiyahh-_ 'give a sign' are etymologically connected with Lat. _sāgus_ 'presaging, prophetic', we might restitute the IE stem in question as *_seḤ$_2$g-_.

H. Craig Melchert's suggestion (_Sprache_ 33, 20, n. 3) that *_H$_2$_ was lost regularly in Hittite with compensatory lengthening in the position between a vowel and any following stop is in conflict with attested forms of the type *nahti*, *nahteni*, *idalawahzi*, *katterahteni*, etc.: there are no compelling reasons for regarding such verb forms as 'secondary' or 'analogical'.

---

[69] The thematic stem of Hitt. _iya-_ 'go, march' may be due to a 'fausse coupe' of the third pl. (_iya-nta_ < *_H$_1$y-onto_), from the root *_H$_1$ey-_ 'go' seen in Skt. _é-ti_, etc. See E. Neu, _StBoT_ 6, 86 f.; cf. Melchert, _StHHPh._, 20, _AHPh._, 129f. The suggestion that the Hittite verb in question reflects the *_yā-_ of Lith. _jóti_, Skt. _yā́ti_ 'goes, etc.' is therefore inconclusive. For a different interpretation of Hitt. _iya-_ 'go' see Puhvel, _HED_ 1-2, 335.

[70] Jasanoff, _MSS_ 37, 92, takes Hitt. _tayezi_ to come from *(_s_)_toH$_2$y-eye-_. He follows Watkins (_Fachtagung_ V, 371 f.) and Eichner (_Fachtagung_ VI, p. 129) in thinking that _-h-_ was lost regularly before *_-y-_ in Hittite and Luwian. The assumption of a phonetic development of Anatolian *_-hy_ into Hitt. _-y-_ is difficult to justify, see Szemerényi, _FlorAnat_, 317 ff.; Lindeman, _Triple representation_, 19, n. 10 and Catsanicos, _BSL_ LXXXI, p. 158. None of the examples cited by G.T. Rikov, _Kuryłowicz Memorial Volume_ I, 187ff., as evidence for the alleged loss of *_H$_2$_ before *_y/i_, is conclusive; for the adduced examples cf. Puhvel, _HED_ 1-2, 11, 207, 366, _HED_ 3, 315.

The view according to which the *-a* of *dannatta* and similar forms represents a 'vocalized' 'laryngeal' (*H_2 > *ə > Hitt. *a*), seems without foundation for the simple reason that voiceless *H_2 survives as *-h*(*h*)- in interconsonantal position in Hittite, cf. Sturtevant, *IHL*, § 73a, who quotes the following examples: *sa-an-ah-zi*, *sa-an-ha-zi*, *sa-an-ah-hu-un*, i.e. probably *sanhh-zi*, etc.; *pár-ha-zi*, *pár-ah-hi-is-kán-zi*, i.e. probably *parhh-zi*, etc.; *wa-al-ah-zi*, *wa-al-ha-an-zi*, *wa-al-*(*ah*)*-hu-un*, i.e. probably *walhh-zi*, etc. To attribute the *-h*(*h*)- in *pár-ha-zi*, etc. to the analogical influence of the 3 plural (e.g. *pár-ha-an-zi*, cf. *StBoT* 26, 138) would be an entirely *ad hoc* explanation. To posit a particular 'reduced' grade (*-${}_{e}H_2$- > Hitt. *-a-*) distinct from the normal zero grade is likewise of no use since the assumption of a special reduced grade in the parent language remains unverifiable, see § 69, *Remark* below. The suggestion that *-H_2 was regularly lost in absolutely final position in Hittite (cf. e.g. Polomé, *RBPhH* 30, p. 1044) is in conflict with imperative forms of the type *ne-wa-a-ah*, *su-up-ya-ah* (from *suppiyahh-* 'make clean, etc.'): there are no good reasons for explaining away these imperative forms as 'secondary' or 'analogical'.

§ 42 The sequences *-*e*H_3- and *-*o*H_3- (with **o* < **e* by qualitative ablaut) give *-*ō*- outside Anatolian, e.g. Lat. *prō* 'before', OCS *pra*(*dědъ*), Skt. *prātár* 'at dawn', Gk. *prō-ḯ*; OHG *fruo* 'early' (< IE **pre*H_3, cf. Polomé, *RBPhH* 30, p. 1064). We would expect the sequences in question to be continued in Anatolian by *-ah*(*h*)-. However, we do not know of any really convincing example of such a development. Cf. Lindeman, *HS* 105, 1992, 165, n. 12.

§ 43 An IE root like **dō-* 'give', which according to § 42 might be reconstructed as **de*H_3-, appears in Hittite in the form *da-* unaccompanied by *-h*(*h*)-, cf. *da-a-i* 'takes', pret. 3 sg. *da-a-as*, etc.[71]

---

[71] For the meaning 'take' of Hitt. *da-*, cf. Benveniste, *Année Sociologique* 1951, 8 ff.

A similar case is *pa-a-as-zi* 'swallows', pret. *pa-as-ta* which is generally connected with Gk. *pôthi, pôma* 'draught', etc.[72] The underlying verbal root can be posited as *peH_3-. On the strength of what was said in § 29 above, it will be assumed here that the 'laryngeal' seen in *deH_3- 'give' and *peH_3- 'drink' was originally voiced (*H_3). If Puhvel, *HED* 3, 368, cf. Puhvel, *Kuryłowicz Memorial Volume* I, 178, should be justified in taking Hitt. *hulla-* 'smash' to go back ultimately to a nasal present *Hwl̥n(e)H_3-, beside *Hwl̥éH_3- in Gk. *(w)alō-* 'be defeated', we could define the stem-final 'laryngeal' of the verbal theme in question as (voiced) *H_3. This, however, is somewhat doubtful since we would expect—according to Sievers' Law—the phonetic realization of */HwleH_3-/ to have been *[HuloH_3-] (> Gk. *hulō-) rather than the *[Hwl̥oH_3-] presupposed by Puhvel's explanation of Gk. *(w)alō-*. For Melchert's reconstruction of a preform *$H_{2/3}$wl̥-n(e)H_1- for Hitt. *hulla-* see below § 59, n. 94.

Remark: According to Martinet, *Word* 9, 253 ff., a non-ablauting *ō (or the corresponding weak grade) 'exuded' a glide -*w*- before a following vowel. In his opinion the *w*-glide represents a phonemically relevant feature of the originally rounded 'laryngeal' *H_3 (which Martinet writes *A^w or *H^w) Schematically, we would thus have *$eA^w + V >$ *āw + *V* vs. *$eA^w + C >$ *ō + *C*. Martinet mostly quotes Latin material in support of his hypothesis. However, as Szemerényi has shown (*KZ* 70, 51 ff.), a change of *-ōw- to *-āw- must be assumed for Latin (or Italic). Cf. also the critical discussions by Cowgill, *EvfL*, p. 148, Polomé, *EvfL*, p. 39, and Winter, *KZ* 79, p. 209.

According to W. P. Lehmann, *Kuryłowicz Memorial Volume* I, 4ff., the suffix of fifth class Sanskrit verbs was, not the semi-vowel *w, but a 'laryngeal', i.e. 'the voiced velar fricative γ, which like the labio-velar stops has a *w*-offglide.' (ibid. p. 5). It is difficult to see how a voiced velar fricative γ could 'exude' a glide *w* in the position before a following *consonant* as in e.g. */strnéγ-ty/, supposedly the preform of the *stṛnéw-ti attested by Skt. *stṛṇóti* 'lay low'. For Puhvel's views (*Laryngeals and the IE verb*, 37, cf. Martinet, *Économie*, 223) on Vedic *stṛṇā́ti, stṛṇóti, stṛṇvánti* see K. Strunk's criticism in *Nasalpräsentien und Aoriste*, 112f.

For reflexes of F. R. Adrados' particular 'laryngeals' with 'appendixes' (i.e. *$H_{1/2/3}{}^y$, *$H_{1/2/3}{}^w$), see F. R. Adrados, Laryngale mit Appendix?, *Innsbrucker Beiträge zur Sprachwissenschaft Vorträge und Kleinere Schriften* 60, 1994, 1-30.

---

[72] See Sturtevant, *CG*, p. 51. Otherwise Schmitt-Brandt, *Vokalsystem*, p. 117, who compares Hitt. *pas-* with Skt. *bhas-* 'devour'.

§ 44 The sequence *_-eH_$_1$_-_ gives *_-ē-_ in non-Anatolian Indo-European; the corresponding result of *_-oH_$_1$_-_ (with *_o_ < *_e_ by qualitative ablaut) is *_-ō-_.

Examples: Gk. _títhēmi_, OCS _děti_, Lith. _dė́ti_, Skt. _dádhāti_ (< *_dheH_$_1$_-_); IE *_dhoH_$_1$_-_ (_o_-grade) is attested by Goth. _doms_ 'judgement', Gk. _thōmós_ 'heap' (cf. Polomé, _RBPhH_ 30, 1045 f.).

IE *_dheH_$_1$_-_ 'put' survives in the Hittite suppletive verb _te-_ 'say' (1 sg. _te-(e-)mi_) ~ _tar-_ (cf. Lith. _tariù_ 'I say'), see Puhvel, _Gedenkschrift Kronasser_, 183 ff. Another example showing IE *_-eH_$_1$_-_ > Hitt. _-e-_ is _ga-ni-es-zi_ [_gnes-zi_] 'knows' which, like Toch. A _kñasäṣt_ (2 sg. pres.), seems to go back to *_g'neH_$_1$_-s-_, cf. Lindeman, _NTS_ 24, 7 ff.[73]

The (unenlarged) verbal root *_g'ne/oH_$_1$_-_ is attested by Gmc. *_knē-jana-_ (OE _cnāwan_,[74] OHG _knāen_, Lat. _(g)nosco_, etc.)[75]

Remark: According to Risch, _Corolla linguistica_, 189 ff. (cf. the critical discussions by Cowgill, _Lg._ 39, p. 267; Puhvel, _Laryngeals_, 55 ff.; Mayrhofer, _Sprache_ 10, p. 182, note 25), a sequence *_-oH_$_1$_-_ (with *_o_ < *_e_ by ablaut) is continued in Hittite as _-ai-_, e.g. Hitt. _ais_ 'mouth' (_a-(i-)is_) vs. lat. _ōs_; 2 sg. _da-it-ti_, 2 pl. _da-a-it-te-ni_ (from _tehhi_) < *_dhoH_$_1$_-_ = perfect Skt. _da-dhā́-tha_, etc. Risch sees the regular zero grade in the _i_ of _ti(ya-)an-zi_ (: _dai_), gen. _is-sa-as_ (: _ais_). We do not find Risch's hypothesis convincing: forms like _daitti, tiyanzi_, etc. seem to contain an old *y-suffix, cf. the discussions by Kronasser,

---

[73] According to Melchert, _StHHPh._, 92, n. 31, a sequence *_-H_$_1$_s-_ becomes geminate _-ss-_ in Hittite, e.g. 3 pl. _kanessanzi_ 'they know'. His suggestion, however, remains disputable as long as it has not been conclusively demonstrated that Hitt. _esa_ 'sits' is not from an orig. reduplicated *_H_$_1$_e-H_$_1$_s-o_ (cf. Eichner, _MSS_ 31, p. 54, Lindeman, _NTS_ 26, 66 f. and Oettinger, _Stammbildung_, 101). Melchert, _AHPh._, 77, however, now takes Hitt. _ganes-zi_ to come from IE *_g'nēH_$_3$_s-_, by 'Eichner's Law', cf. below § 59 a. The assumption of a lengthened grade (*_H_$_1$_ēs-_) for Skt. _ā́ste_, Gk. _hêstai_, and Hitt. _esa_ (cf. Winter, _EvfL_, p. 202) remains unverifiable. Also, there is no proof that Old Hittite active forms such as 3 sg. pres. _e-es-zi_ 'sits' (see E. Neu, _StBoT_ 26, 39 and notes 213-215) are 'secondary' (so Puhvel, _HED_ 2, 300).

[74] For the _-w-_ of OE _cnāwan_ and similar verbs, see Lindeman, _NTS_ 22, 1968, 48 ff.

[75] For the reasons stated in § 46 below, Gmc. *_knē-jana-_ and Toch. A _kña(säṣt)_ cannot go back to a lengthened grade */g'nēH$_3$-/ despite Mayrhofer, _IdgGr._ 1, 141 f. (with further references). It seems strangely illogical that Jasanoff, _Laryngaltheorie_, 227-239, who fully endorses 'lex Eichner', nevertheless explains away the Germanic *_knē-_ seen in OE _cnāwan_, etc., as 'a purely Germanic creation' (p. 238). See Lindeman, _HS_ 102, 274.

EHS, 536 ff. (with references); Crossland, *ArchLing*. 10, 97 f.; Melchert, *StHHPh*., 68, *AHPh*., 78; Jasanoff, *HethIdg*., 88, and Lindeman, *HethIdg*., 155 f. For Hitt. *ais* 'mouth', see § 29 above.

According to Diver, *Word* 15, 110 ff., *H_1 is to be defined phonetically as *H^y. Diver posits the following regular developments for a sequence *-*e*H^y-: *-*e*H^y + *V*- > *-*ēy* + *V*- (with a glide *-*y*-), *-*e*H^y + *C*- > *-*ē* + *C*-. For the reasons given in § 63 below, this seems disputable to us. For further speculations on *H_1, see Puhvel, *Laryngeals*, 53 ff., Schmalstieg, *Word* 16, 204 ff. Cf. also Polomé, *EvfL*, p. 38.

§ **45** On the strength of examples like *eszi* 'is' and *dai* 'takes' we concluded in §§ 29, 44 that the 'laryngeal' *H_1 has not been maintained in Hittite.

However, there exists some linguistic material that might indicate that Hittite has preserved vestiges of an originally voiced neutral 'laryngeal' which we will write *H_1 (cf. also § 93 below). Some Hittite forms present an internal sequence -*eh*- for which Sturtevant and scholars following him assume a non-colouring voiced 'laryngeal', e.g. *mehur* 'time' which has been etymologically connected with the IE verbal root **me*H_1- 'measure' (in Skt. *māti*, etc.). According to Sturtevant, it is precisely the single writing of *h* which indicates the originally voiced quality of the 'laryngeal' in question, cf. § 93 below. It should be stressed, however, that most Hittite forms containing the sequence -*eh*- have no established etymology, cf. the *Remark* below.

Remark: The supposed etymological connection of Hitt. *mehur* 'time' with IE **me*H_1- has been criticised by Polomé, *RBPhH* 30, 459 f., who compares the Hitt. form to Lat. *meo* 'to go, pass' (IE **mey*-). The assumption that Hitt. *sehur* is from the same root **se*H_1- as Lat. *sēmen* 'seed' (Sturtevant, *IHL*, 47) has been shown to be incorrect by Puhvel, *FlorAnat*., 297 ff., who observes that the meaning of *sehur* is not simply 'urine' in all cases; thus, KUB XXII 33 Vs. 9 Á$^{\text{MUŠEN}}$-*ma*...*šehur tarnaš* 'means simply "the eagle let fall droppings" (since birds have no urine). Finally, KBo X 45 IV 37-38 yields a meaning which is incompatible with bodily wastes or emissions of any kind and points rather to "muck, crud": *karizz-a-kan* GIM-*an* URU-*az šēhur* IM-*an ārri* "as the deluge washes crud (and) mud off the city"...' (ibid., p. 298). Puhvel points to the 'gloss-wedged Luwoid neuter noun *du-ú-úr* 'urine' in KUB XIII 4 III 67-68 *apedani-ma* DINGIR.MEŠ *zakkar* *dūr adanna akuwanna pianzi* "to him the gods will give excrement (and) urine to eat (and) drink".' (p. 298). Together with Luwian *du-ú-úr*, Hitt. *sehur* (which is taken to be the verbal noun of *sah*- 'clog (with dirt), plug, stop' (ibid., p. 300) supposedly goes back to Proto-Anatolian **dyehur* from IE **dhyé*H_1-*wr̥* . Puhvel proposes to see the root of the latter form continued in Lat. *fimus* 'ordure', *faex* 'dregs, sediment, impurities' (ibid., p. 302). This raises interesting perspectives, but the suggested etymology remains essentially a 'root etymology'; also the absence of any 'laryngeal' in _fimus_ and the _a_-vocalism of _faex_ do not seem to be easily compatible with Puhvel's restitution of a non-colouring (voiced) 'laryngeal' in *_dhyeH_$_1$_-wr̥_. For a different analysis of Luw. _dūr_ and Hitt. _sehur_, see now H. Craig Melchert, _AHPh._, 118, 274, who—unconvincingly—takes the initial _d_- of Luw. _dūr_ to come from _s_-.

For Winter's suggestion (_EvfL_, p. 196) that Hitt. _mehur_ 'time' reflects IE. *_moH_$_3$_u_- seen in Lat. _moueo, mōmentum_, see the discussion by Eichner, _MSS_ 31, p. 61.

For Hitt. words with initial _he_- of the type _hekur, henkan_, etc., see § 25 a.

§ 46 Despite the fact that so little is actually known about the exact phonetic nature of the IE 'laryngeal' consonants, many contemporary scholars unhesitatingly accept a phonologically unsubstantiated claim according to which lengthened grade (Dehnstufe) *[_ē_]—arisen at a stage before (normal grade) */e/ had undergone 'laryngeal' colouring—was not affected by a neighbouring *H_2 (or *H_3) in the parent IE language: 'Die Annahme der Erhaltung von uridg. ē in dieser Position ist prinzipiell unbedenklich, da Langvokale erfahrungsgemäss durch benachbarte Konsonanten nicht in demselben Mass verändert werden wie die entsprechenden Kurzvokale.'[76] Thus, according to Eichner, _MSS_ 31, 53 ff., _mehur_, gen. sg. _me-e-hu-na-as_ 'time' goes back to *_mēH_$_2$_-wr̥_ with *_ē_ preserved before *H_2; for the lengthened grade in a neuter _r/n_-stem of this type, cf. Gk. _hêpar_ 'liver'. Eichner posits the underlying verbal root as *_meH_$_2$- (> *_mā_-) 'die rechte Zeit sein, zur rechten Zeit sein', cf. Lat. _mātūrus_ 'ripe', _māne_ 'early in the morning; morn'.

This explanation, known as 'lex Eichner', creates more problems than it attempts to solve, however, see Lindeman, 'Laryngeal' Colouring and Lengthened Grade in Indo-European, _Festschrift K. H. Schmidt_, pp. 110-121.

Thus, various Semitic languages offer incontrovertible evidence for colouring of long vowels by adjacent laryngeal/pharyngeal consonants, see the examples cited in Lindeman, op. cit. 111. Since the possibility cannot be ruled out that at least some of the IE (voiceless and voiced) consonants denoted by the symbols *H_2 and *H_3 were of the laryngeal/pharyngeal type, it follows that there is no phonologic reason

---

[76] Eichner, _MSS_ 31, 1973, 54ff.

a priori why these consonants should not have coloured an immediately preceding or following [_ē_] to [_ā_] and to [_ō_], respectively, in the parent Indo-European language.

Further, since Eichner's explanation presupposes the existence of a lengthened grade at a stage when */e/ had not yet been coloured to *[_a_] in the vicinity of *_H_$_2$, we should expect to find, in a case like Hitt. _mehur_, if from IE √_meH_$_2$-, non-ambiguous traces of an alternation of the type *_mē_- (from the lengthened grade *_mēH_$_2$- with *_ē_ preserved before *_H_$_2$) ~ *_mā_- (from the normal grade */meH$_2$-] > *[_maH_$_2$-]) in the IE dialects outside Anatolian (see Lindeman, _HethIdg._, p. 153, n. 6, _Triple representation_, p. 15, cf. also Catsanicos, _BSL_ LXXV, fasc. 2, p. 117).[77] As there is no *_g^{w}ē_- < *_gwēH_$_2$- beside *_g^{w}ā_- < *_g^{w}eH_$_2$- 'go, come' (Gk. Dor. _ébān_), no *_stē_- < *_stēH_$_2$ beside *_stā_- < *_steH_$_2$- 'stand' (Gk. Dor. _hístāmi_ 'make to stand'), no *_bhē_- < *_bhēH_$_2$ beside *_bhā_- < *_bheH_$_2$- 'say' (Gk. Dor. _phāmí_), etc., the proposed explanation remains entirely _ad hoc_. (For Eichner's teaching, ibid., p. 100, n. 88, according to which -_h_- in _mehur_ is the lenition of -_hh_-, the regular reflex of *-_H_$_2$-, see § 92 below).

Most of the examples—including Hitt. _mehur_—quoted in Mayrhofer's _IdgGr._ 1, 132 f., in support of Eichner's claim that */ē/ was not affected by an adjacent *_H_$_2$, are essentially typical 'root etymologies'.

Anatolian forms. Luw. _si(h)wal_-, allegedly from *_sēH_$_2$_wol-ó_-, a derivative of *_seH_$_2$_wel_- 'sun' (cf. Gk. *_hāwélios_), can be discarded right away since its meaning remains unknown, see Lindeman, _Festschrift Ernst Risch_, p. 146, n. 3, with references.[78] Further forms: Hitt. _hekur_ 'summit, peak' < *_H_$_2$_ēk'-w_- (: *_H_$_2$_ek'_- 'sharp, pointed', cf. Gk. _ák_-

---

[77] For an example with *_H_$_3$, cf. § 27, n. 32 above: Lith. _úosti_ 'smell' < */H$_3$ēd-/ = *[_H_$_3$_ōd_-] (_not_ *[_H_$_3$_ēd_-]!): Lat. _olet_ < */H$_3$ed-/ = *[_H_$_3$_od_-].

[78] The interpretation of Luw. _si(h)wal_ as 'lamp' < *_sēH_$_2$_-wol_- is now rejected also by Melchert, _Fachtagung_ IX, 239, n. 10, as '... improbable formally and semantically. That the feeble oil lamp of the Hittites would be derived from the word for 'sun' and used as a metaphorical agent of 'blinding' seems to me farfetched.'

ros);[79] Luw. _piha-_ 'brilliance' < _*bhēH_2-o-_ (: _*bheH_2-_ > Skt. _bhā-_ 'shine'); Luw. _hirud-, hirun-_ 'oath' < _*H_2ēr-w-_ (: _*H_2er-_, cf. Gk. _ararískō_).[80]

As long as there is _no_ trace of a similar ablaut alternation in the non-Anatolian IE root- and word-forms cited as etymological connections (e.g. _*ēk'-_ 'sharp; peak' < _*H_2ēk'-_ ~ _*ak'-_ < _*H_2ek'-_, _*bhē-_ 'shine' ~ _*bhā-_ 'id.', _*ēr-_ ~ _*ar-_, Gk. _ararískō_, etc.), to account for Hitt. (Luw.) _e_ (_i_) in these words by positing _*H_2ē-_, _*-ēH_2-_ would be a purely _ad hoc_ assumption. For Hitt. _hekur_ which is of non-IE origin see above § 25 a. There is further no way of proving that Hitt. _heu-/heaw-_ 'rain' is from a lengthened _ē_-grade (_*H_2ēy-_] of a root _*H_2ey-_ allegedly underlying the Hitt. nasal infix verb stem _hinik-_ 'to rain', see the detailed critical discussion by Lindeman, _Linguistica_ 33, 1993, 113ff.

Hitt. _ga-ni-es-zi_ [_gnes-zi_] 'recognizes' can be taken to reflect a lengthened grade _*g'nēH_3-s-_ only by reconstructing the IE verb stem meaning ‘recognize, know’ as **g’neH*$_3$-. As pointed out above § 44, however, there is nothing preventing us from taking Hitt. *ga-ni-es-zi*, Toch. A *kñasäṣt* (2 sg. pres.), Proto-Gmc. **knē-jana-* (OHG *knāen*, OE *cnāwan*, etc.) and, perhaps, Arm. *caneay*, Proto-Gmc. **kunnē-* (> OHG *kunnēn*, Goth. *-kunnan*),[81] to represent an original verb theme **g’neH*$_1$- > non-Anatolian IE **g’nē-* in ablaut alternation with the **g’noH*$_1$- > non-Anatolian IE **g’nō-* attested by Lat. *(g)nosco*, etc.

---

[79] Oettinger, _HS_ 107, 1994, 77, quotes Puhvel, _HED_ 3, 305, as having reconstructed the IE preform of Hitt. _hiqqarza_, name of a tree, perhaps 'maple', as _*h_2ēk(e)r-_, cf. Lat. _acer_ 'maple', Germ. _Ahorn_. Puhvel, however, does nothing of the sort: his reconstruction of _hiqqarza_ is _*E_2ēk(e)r-_, where _*E_2_ denotes a voiced _e_-colouring 'laryngeal' (= our symbol _*$\underset{.}{H}_1$_). Cf. below § 95, n.

[80] Recently, C. Watkins, _Festschrift Rix_, 1993, 469ff., proposes to connect etymologically the Luw. neuter noun (nom. acc. sg.) _hīrūn_, stem _hīrūt-_ 'oath' with the Gk. _*arwā́_ meaning 'prayer', not 'oath', seen in Ion. _ārḗ_, the preform of which he reconstructs as _*H_2er-wáH_2_. This, however, is a typical root-etymology from which no sure—formal or semantic—conclusions can be drawn. Watkins considers the Luwian stem _hīrūt-_ a regular reflex—according to 'lex Eichner'—of IE _*H_2ēr-ū-t/d(h)-_, a formation which supposedly 'closely parallels' (ibid. 470) that of Lat. _salūs_, stem _salūt-_, 'a sound condition' or _palūs_, stem _palūd-_, 'a swamp, bog', or _tellūs_ 'earth, land'. (The reason why Lat. _tellūs_, _-ūris_ is cited as an illustrative example in this connection eludes me). However, the morphologic make-up of _salūt-_, _palūd-_ (with zero grade in the root syllable) differing from that of the supposed _*H_2ēr-ū-t/d(h)-_ (with lengthened grade in the root syllable), any surface _resemblance_ that _hīrūt-_ may have to Lat. _salūt-_, _palūd-_ is of no help in determining the source of _hīrūt-_: as long as we do not possess even the slightest shred of evidence for the existence in non-Anatolian IE of a stem form _*ēr-ū-t/d(h)-_ meaning 'oath', to posit _*H_2ēr-ū-t/d(h)-_ for Luw. _hīrūt-_ is totally _ad hoc_: an _unexplained_ Luw. noun _hīrūn_, stem _hīrūt-_, characterized (ibid. 470) as morphologically 'opaque', is taken to presuppose an IE stem _*H_2ēr-ū-t/d(h)-_, the _only_ vestige of which in the whole of Indo-European is precisely the _unexplained_ Luw. _hīrūn_, stem _hīrūt-_.

Having no established etymology the Hitt. verb *henk-*, *hi(n)k-* ‘bestow, offer’, which seems to be ‘root-related’[82] to *he(n)k-*, *hi(n)k-*, *hai(n)k-* ‘bow, show reverence’,[83] cannot, of course, give any support to the reconstruction of an IE lengthened grade athematic present of the shape (sg.) **H*$_{2/3}$*ēnk’-ti*. Consequently, the totally unverifiable suggestion that an original **H*$_{2/3}$*ēnk’-ti* is the source of an otherwise unattested (non-Anatolian) IE present **ēnk’-ti*, which survived in the thematic OIr. verb *-icc* (occurring only in composition, cf. *ro-icc* ‘reaches’, *con-icc* ‘is able’, etc.), must be rejected as being both methodologically and phonologically unjustifiable. According to Lindeman, On some ‘laryngeal’ reflexes in Celtic, *ZCP* (forthcoming), OIr. *-icc* goes back, in the final analysis, to IE zero grade **ṇk’-* (< **H*$_{2/3}$*ṇk’-*): the Britannic languages point clearly to an Insular Celtic zero grade **ank-*, e.g. MlW. *ranc* in *ranc bod* ‘satisfy’. Mayrhofer, *Festschrift Neumann*, 191, n. 51, reconstructs IE **H*$_2$*e-H*$_2$*no[n]k’e* for OIr. *-ánaic* (= Skt. *ānáṃśa*, perfect of *aśnóti* ‘attains’). However, the stem of the OIr. suffixless preterite in question (*-ánaic*, *-áncammar*, *-áncatar*) represents Insular Celtic **ānank-* (> Prim. Irish **āneg-*, seen in Wb. 14c40 *-anecc-*) from an IE zero grade perfect stem **ō/ānṇk’-* attested for example in the Skt. perfect 3 pl. *ānaśúr*, see Lindeman, *Ériu* XXXIII (1982), p. 184.

---

[81] According to Lindeman, Une correspondance arméno-germanique, *NTS* 27, 52f., Arm. **cani-*, seen in the aorist *caneay*, and Proto-Gmc. **kunnē-* may go back, in the final analysis, to a regular nasal present stem formation (sg.) **g’ṇ-né-H*$_1$-.

[82] See Puhvel, *HED* 3, 295.

[83] Old Hittite spellings like *ha-in-kán-ta*, *ha-ik-ta-ri*/*he-ek-ta* (from *hink-* ‘bow’) pose serious problems: the *ai*/*e* in *hai(n)k-*/*he(n)k-* is interpreted by E. Neu, *StBoT* 5, 55, n. 1, as representing an *i*-diphthong, by Puhvel, *HED* 3, 295, as representing a reverse spelling.

Mayrhofer, _IdgGr._ 1, 133, quotes some other non-Anatolian IE forms as testifying to an IE lengthened _*ē-grade_ < _*-ē_H_2-. In each case, however, these examples are confined to one language only, and none of them has any demonstrative force.

Another alleged case of an IE lengthened *$H_2\bar{e}$-grade, likewise confined to one language only, is ON _ægir_ 'sea; god of the sea', taken to reflect a vṛddhi-formation to the root *H_2ek^w- 'water', seen in Lat. _aqua_, i.e. IE *$H_2\bar{e}k^w$-_iyó_-, lit. 'belonging to the water' (cf. the Vedic type _taugryá_- 'son of _túgra_-').[84] In Old Norse prose and poetry _ægir_ means 'the sea'. It means 'god of the sea' in the phrase (attested twice) _ægis døttr_ 'the daughters of ægir', i.e. 'the waves', where _ægir_ personifies the sea. As this may well be a secondary, poetic meaning of the word, there are no compelling grounds for seeing an old IE vṛddhi formation meaning 'the one who belongs to the water' in ON _Ægir_ 'god of the sea'.

Further, as IE _*ē_ was a front vowel, i.e. [ẹ̄], in Proto-Germanic,[85] Seebold's rules[86] according to which Proto-Gmc. intervocalic _-γw-_ developed into _-g-_ after back-vowels only, lead us to expect that a preform of the shape (*$H_2\bar{e}k^w$-_iyó-_ >) *[_ēγwijá-_] would have yielded *[_ēwija-_] at a later stage of Germanic. However, since there is no way of proving that the _g_ of _ægir_ must represent a pre-Gmc. tenuis rather than a pre-Gmc. media aspirata, the assumption that ON _ægir_ goes back to pre-Gmc. *$\bar{e}k^w$_iyó_- remains purely conjectural. As in the case of ON _ái_ (discussed below)—and for exactly the same reasons—to posit an IE lengthened grade *$H_2\bar{e}k^w$- for ON _ægir_ is strictly _ad hoc_, methodologically. It clearly appears from the above discussion that ON _ægir_ must be considered etymologically obscure.[87] (_Ægir_ might continue _*ēγ-ija-_, cf. the IE root noun _*ēg'h-_, _*eg'h-_ which Fraenkel, _Lit. etym. Wörterb._, 125, sees in Lith. _ežẽ_ 'border', OCS _jazъ_ 'estuary; stomach, etc.', Russ. _jaz_ 'Fischzaun', cf. Lith. _ẽžeras_ 'sea').

---

[84] I see no linguistic justification for the strangely aberrant phonetic developments proposed by Darms, _Schwäher und Schwager ... Die Vrddhi-Ableitung im Germanischen_, München, 1978, 28 f., for ON _ægir_, i.e. *$H_2\bar{e}k^w$_yó_- > Proto-Gmc. _*ēgwja-_ > _*ēgja-_ > _*ēgija-_. It should be stressed here that a form of the shape *[$H_2\bar{e}k^w$_yó_-] is in obvious conflict with Sievers' Law (according to which */$H_2\bar{e}k^w$yó-/ would have been realized phonetically as *[$H_2\bar{e}k^w$_ió_-] in Indo-European.

[85] See Krause, _Handbuch des Gothischen_, 1953, 73 with references.

[86] See Seebold, Die Vertretung von idg. g^wh im Germanischen, _KZ_ 81, 1967, 132: *_γw_ > _w_ after Proto-Gmc. _i_ and _e_: 'In den übrigen Fällen (d.h. nach dunklem Vokal) erscheint _g_.'

There is nothing that forces us to believe that OIr. _lie_, gen. sg. _liacc_ 'stone' necessarily presupposes a root vowel _*ē_ < _*-ēH_$_2$ (_*lēH_$_2$_-_: _*leH_$_2$_-_ > _*lā-_ in Gk. _lâas_): the stem vowel of _lie_ may be Insular Celtic _*e_ (cf. Gk. _lépas_ 'bare rock') since a short tressed _*e_ in hiatus sometimes becomes _i_ in Old Irish, cf. _nie_ 'sister's son' (: Lat _nepos_). See also Pedersen, _VKG_ II, p. 100.

Urnordic philology demonstrates that ON _ái_ 'great grandfather' is not from non-Anatolian IE _*ēw-ēn_ < orig. _*H_$_2$_ēw-ēn_ (: _*H_$_2$_ew-_ > _aw-_ in Lat. _avus_ 'grandfather'): it is a well-established fact that ON _-i_ in masc. _n_-stems does not presuppose IE _*-ēn_; _-i_ is the ending of _-ijan_-stems, analogically transferred to _-an_-stems (_gumi_), see N. Lid, _NTS_ 16, 1952, 237 ff., E.H. Antonsen, _The Nordic Languages and Modern Linguistics, Proceedings of the International Conference of Nordic Languages and General Linguistics_, 1970, 313 f. and O. Grønvik, _Runene på Tunesteinen_, 1981, 65 f. In our case, we can posit a Classical Urnordic nom. sg. _*awa_, the ending _-ă_ of which has been remodelled on the oblique cases, cf. the acc. sg. _*-an_; _*awă_ would give regularly ON _*á_, whence _ái_ in the same way as nom. sg. _*gum_ becomes _gumi_ with the _-i_ of _-ijan_-stems. It is generally assumed, doubtless correctly, that _ái_ is the same word as _afi_ 'grandfather' (with restored _*w_ > _f_), and that the meaning 'great grandfather' is due to a secondary semantic split.

Methodologically, to posit IE _*H_$_2$_ēw_(-) for ON _ái_ is strictly _ad hoc_: ON _ái_ is here, through a completely circular reasoning, made the justification of the assumption of an IE Dehnstufe _*H_$_2$_ēw-_, the only vestige of which in all the Indo-European languages is precisely the ON form _ái_.

Finally, as long as clear evidence for ablaut alternations of the type _*mē-_ (< _*mēH_$_2$_-_) ~ _*mā-_ (< _*meH_$_2$_-_) simply does not exist in the IE dialects outside Anatolian, it would be a purely _ad hoc_ explanation to posit *-yēH_2-s > *-yēs to account for the Lat. type (*mater*)*iēs*. I see nothing wrong with Sommer's explanation of this type in his *Handbuch der Lateinischen Laut- und Formenlehre*, 394 f., 'da sonst sichere Spuren eines *-iē-* fehlen, tut man besser, auch die lat. Feminina auf *-iē-* als einzelsprachliche Nebenform von *-iā-* zu fassen, womit zugleich das auffallende Schwanken nach der *-iā*-Klasse (*effigiēs* und *effigia*, *māteriēs* und *-ia* ...) erklärt wäre.' Sommer points (with Osthoff) to the acc. sg. *-iyem as the source of the *e*-vocalism in Latin; the preform of the acc. sg. in *-iyem can be posited as *-iH_2m̥ (cf. Gk. *pótnia*(*n*), and see Kuryłowicz, *Apophonie*, p. 195).

---

[87] See the discussion by Lindeman, _Festschrift K. H. Schmidt_, 112f.

See Lindeman, *Studia etymologica Indoeuropaea Memoriae A. J. Van Windekens dicata*, 1991, 178, *Remark* 2, for K. T. Schmidt's unjustifiable claim (in: *Studien zum indogermanischen Wortschatz*, 1987, 287f.) that Toch. B *yolme* 'Teich' is from IE *H_2ēlmo- with *ē in ablaut alternation with the *a of *H_2almo- > Toch. B *ālme* 'Brunnen'.

What Eichner and his followers have not succeeded in giving us is unequivocal proof of the actual occurrence of linguistic forms of the shape Anatolian [*eh*] = non-Anatolian IE *[ē], *for which 'lex Eichner' is the only possible explanation*, i.e. IE *[ē$H_{2/3}$] > Anatolian [*eh*] = non-Anatolian IE *[ē]: as long as not one single clear example for such a development is available, 'lex Eichner' can have no *raison d'être*.

The Hittite verb *wehzi* 'turns' may illustrate what I have just been saying: *first* it must be shown that there exists conclusive evidence for a development of IE *[ē$H_{2/3}$] into Anatolian [*eh*] = non-Anatolian IE *[ē], and *then*, but only then, the reconstruction of an IE preform *[wēH_2ti] for Hitt. *wehzi* becomes feasible. If, however, no *other* example for the proposed development is available, to posit IE *[wē$h_2$ti] for *wehzi* remains, of course, totally *ad hoc*.

§ 46 b. According to Melchert, *AHPh.*, § 4.1.3.2.1. (1) Note, p. 68, however, 'Eichner's Law' is assured: 'The analysis of Hitt. *wēh-* 'turn' as *wēh_2- is **not** ad hoc or circular, as misrepresented by Lindeman. Both acrostatic presents ... and "lenition" after accented long vowels in PA ... are **independently** established. It is thus quite reasonable to apply these concepts to explain first Hitt. *wēk-* 'demand' and then in parallel fashion *wēh-* < *wēh_2- ...'

No logical expertise is required to see that Melchert's reasoning here is circular and, therefore, inconclusive: assuming that Hitt. _wekmi_ represents an IE acrostatic present *_wēk'-mi_, of which there is no other attestation in any IE language, Melchert proposes to take the (etymologically and formally) unclear Hitt. verb _wehzi_ 'turns' to likewise come from an IE acrostatic present of the shape *_wē_H_2_-ti_, the _only_ vestige of which, however, in the whole of Indo-European, is precisely the unclear Hittite verb in question. Most importantly, however: irrespective of one's views on the original morphology of the IE present of √_wek'_-, it simply makes no sense to justify the reconstruction of an otherwise nowhere attested IE verb stem *_wē_H_2- > Hitt. _weh-_ by referring to Hitt. _wekmi_ : _wekmi_, whether or not originally an acrostatic present, comes from an IE verbal root *_wek'- which never contained any a- or o-colouring 'laryngeal'_. Consequently, one cannot adduce _wekmi_ as a piece of evidence in support of the supposed development of an IE sequence *[-_ē_$H_{2/3}$-] > PAnat. *[-_ēhh-_] > Hitt. [-_ēh-_] (by lenition).[88]

Strictly speaking, there is no plene-writing in the case of _ú-e-eh-zi_: here, the extra vowel sign (-_e_-) is written to show that the root syllable is [_weh-_], and not [_uh-_], since the sign for _eh_ also denotes _ah ih uh_, see Rüster-Neu, _Hethitisches Zeichenlexicon_, Wiesbaden, 1989, 257.

---

[88] According to some scholars (e.g. Sturtevant, _CG_, 23, Kuryłowicz, _PICL_ 8, p. 218), the reason for writing the extra vowel sign (-_e_-) in _ú-e-ik-zi_ (Old Hitt.) was to mark clearly the quality of the radical vowel since the sign IG was ambiguous in this respect (_ig/k/q, eg/k/q_), i.e. _ú-e-ik-_ = [_wek-_]. E. Neu (personal letter of August 12, 1996) informs me that the 3 plural of this verb is normally written _ú-e-kán-zi_, rarely _ú-e-ga-an-zi_, and still more rarely _ú-e-ik-kán-zi_, participle _ú-e-kán-ta-an_ KUB IV3+ Vs. 16'. Apparently, the old zero grade *_uk'_-, still seen in Vedic _uśmási_, _uśánti_, ptc. _uśánt-_, was replaced, in the plural and in the participle of this verb, by the full grade _wek-_ which had been taken over from the pres. indic. sg. To judge from _(w)ekṓn_ 'readily', the original samprasāraṇa *_wek'_- ~ *_uk'_- was likewise abolished at an early stage of Greek in this verb. It is possible, therefore, that Hitt. _wek-_ goes back ultimately to a normal athematic _mi_-verb, i.e. _wek-mi_ < IE *_wék'-mi_ = Vedic _váś-mi_. There is, further, nothing that forces us to accept any 'lenition' of the plosive (-_k_-) in _wek-mi_: regarding _scriptio plena_ and 'lenition' I refer to Puhvel's position (_HED_ 3, Preface): 'Such late-fangled hypotheses as the existence of "lenition" in Hittite, and attempts to correlate plene-writing systematically with vowel length, are generally denied credence as criteria, but cautious use is made of plene-writing in determining the position of word (and especially paradigmatic) accent.' See also below §§ 92, 93.

Consequently, Hitt. *wehzi*, which has no established etymology, can represent a normal athematic *mi*-verb (cf. below § 93. n. 213). There is thus nothing that forces us to accept any 'lenition' of the 'laryngeal' in this verb in Hittite.

Despite the many claims to the contrary, comparative material that could authorize the reconstruction of a *Proto-Indo-European* acrostatic active present flection of the type (sg.) *Cḗ(R)C-ti, (pl.) *Cé(R)C-n̥ti simply does not exist: no one has as yet been able to cite even one single example of the survival—in two or more languages—of such a present flexion. There are, for example, no compelling grounds for the assumption that *H_1ed- 'eat' formed an acrostatic active present in the parent language, see Lindeman, Old Irish *ithid*, *Ériu* XLV, 1994, 191ff.

§§ 47-51 'Laryngeals' in the position after a syllabic resonant and before a non-syllabic sound (or in word-final position)

§ 47 In these positions the 'laryngeals' disappear in non-Anatolian Indo-European entailing a compensatory lengthening of the preceding syllabic resonant. The combinations *-iH-, *-uH- give regularly *-ī-, *-ū- in all the non-Anatolian IE languages.[89]

Examples: the zero grade *-ī- (< *-iH_1-) of the optative suffix *-yéH_1- in plural and middle forms of the type Lat. *sī-mus* (: *siēs*), Skt. *dhukṣīmáhi* (from *duh-* 'milk'), Goth. (pret. opt.) *bereina*, Gk. *eîmen* < *es-ī-men, Toch. A *yām-i-mäs* (1 pl. opt. of *yām-* 'do, make'), B *yamīcer* (2 pl. opt. of *yām-*); *g^wī-wó- 'living' < *g^wiH_3-wó- (cf. *g^wyeH_3- in Avest. *ǰyā-tu-* 'life', Gk. aor. *e-bíō*)[90] attested by Skt. *jīvá-*, Lith. *gývas*, Latv. *dzîvs*, OCS *živъ*, Lat. *vivus*, Osc. (nom. pl.) *bivus*. The origin of the short root vowel of the *g^wiwo- seen in Celtic *biwo- > OIr. *béu*, W *byw*, and in Gmc. *k^wiwa- > Goth. *qiwa-* remains unexplained. Hamp, *Studies Palmer*, 88, suggests that *g^wi-wo- might be considered a refashioning of the original *g^wī-wo- on the basis of a prevocalic *g^wi-

---

[89] For *-ī-, *-ū- in forms like Skt. *dhī-tá-* (: aor. *ádhāt*, from *dhā-* 'suck'), Skt. *sū́ras* (gen. sg. of *suar*, cf. Gk. *hāwélios, Goth. *sauil* 'sun'), see §§ 53, 60 f. below.

[90] For Arm. *keam* 'I live' < dissimilated *g^wi$ex^{(w)}$- see § 40 a. *Remark*.

< $*g^{w}iH_{3}$- after the regular loss of 'laryngeals' before vowels.[91]

For *_-ū-_ < *_-uH-_, cf. Skt. _bhū-tá-_, aor. _ábhūt_, Gk. _éphū_, Lith. inf. _bū́ti_ (: Skt. _bhavitum_; IE *_bhew-H-_, *_bhu-H-_); Skt. _sū-tá-_ (: pres. _suváti_ 'generates'), ipf. _ásūta_, etc. (IE *_sew-H-_, *_su-H-_); Skt. _dhūmá-_, Lat. _fūmus_, OCS _dymъ_ 'smoke' (< *_dhuH-mó-_), cf. Hitt. _tuhh-(ima-)_ 'difficult breathing', _tuhhui-_ 'fumée, vapeur' (Laroche, _BSL_ 52, pp. 80 and 76, n. 1).[92]

§ **48** As the 'laryngeals' were consonants inherently less sonorous than the resonants *_y_, *_w_, *_r_, *_l_, *_m_, *_n_ (§ 16), it follows that the _-ia_ of Gk. _pótnia_ (vs. Skt. _pátnī_ 'wife') cannot represent the phonetic outcome in Greek of IE */-yH_2/#: _(pótn)ia_ seems to owe its shape to the acc. sg. _(pótn)ian_ in which _-ia(n)_ is from */-yH_2m/#, i.e. phonetically *[iH_{2}_m̥_]#

---

[91] V. A. Dybov, Sokrašenije dolgot v kel'to-italijskix jazykax i ero značenije dlja balto-slavjanskoj i indoevropejskoj akcentologii, _VJA_ 5, 1961, 9—34, argues that long vowels and resonants were regularly shortened in pretonic position in Italo-Celtic and also in the IE dialect ancestral to Germanic. But Dybov's playing about with different accents does not explain anything: to claim that e.g. Celtic *_lāno-_ 'full' (> OIr. _lán_)—as distinct from Vedic _pūr-ṇá-_ (< $*pl̥H_{1}$-_nó-_)—presupposes presuffixal accent, whereas Celtic $*g^{w}iwo$- > *_biwo-_ (OIr. _béu_) is regularly shortened from $*g^{w}$_īwó-_ with the accent of Vedic _jīvá-_, rests entirely on a circular reasoning which can have no probative force. (For Kortlandt's particular views on 'Dybov's Law' and IE 'laryngeals' see _Ériu_ XXXII, 1981, 1ff.). In my opinion, Hamp, _Studies Palmer_, 89, is clearly right in insisting that one cannot attribute the short vocalism of Celtic reflexes of $*g^{w}iH_{3}$- to pretonic shortening: '... the fact that the short _i_ holds for the entire Celtic etymon vitiates any accentual consideration.' For Gmc. $*k^{w}ik^{w}a$- > OIcel. _kvikr_, etc., see below § 82. Normier, _KZ_ 91, 1977, 182, n. 25, proposes to posit $*H_{1}$ > Ø in $*g^{w}iH_{1}$_wó-_ and similar forms, cf. $*wiH_{1}ro$- > *_wiro-_ in OIr. _fer_, Lat. _vir_ 'man', $*suH_{1}$_nú-_ > Gmc. *_sunu-_ (OIcel. _sunr_), etc. Since nobody knows anything about the quality of the 'laryngeal' which formerly existed in 'man' and 'son', to posit $*H_{1}$ for these words is totally unwarranted. In Gk. Att. _zên_ 'live' the _ē_ is of analogical origin, see Martinet, _Économie_, 227 f. The _-es-_ in the $*$-$g^{w}iH$-_es-_ underlying Gk. _(hu)-giēs_ 'healthy' may be due to analogy in the same way as the _-e-_ of *_pi-b-e-ti_ (< √peH_{3}-) underlying OIr. _ibid_, Lat. _bibit_.

[92] For a criticism of the aberrant views of Chr. Peeters, _IF_ 78 (1973), 75 ff., see the discussion by Lindeman, _Triple representation_, p. 13, note 1.

(see Kuryłowicz, _Apophonie_, p. 195).[93] Another reshaped formation in Greek is _ósse_ 'the two eyes', an old dual *_okwī_ > *_ók_^{w}_i_ (with *-_ī_ > -_i_ as in _eíkosi_), to which the dual ending -_e_ has been added later, i.e. *_oky-e_ > _ósse_ (see Schwyzer, _GrGr._ I, p. 565, Cowgill, _EvfL_, p. 150, n. 12). The expected phonetic outcome of an IE dual */H$_3$ék^w-yH/ is attested by OCS _oči_ < *_ók_^{w}-_ī_; for Arm. _ačʿkʿ_ 'eyes', cf. the discussion by Lindeman, _Triple representation_, p. 47.

§ **48 a**. According to Forssman, _MSS_ 25, 46, Gk. _ósse_ comes from IE *_ok_^{w}-_yə_$_1$ with an ending *-_yə_$_1$ (i.e. *-_y_ + a 'vocalized' 'laryngeal') which is considered a phonetic variant of the ending *-_iə̯_$_1$ (i.e. *-_i_ + a consonantal 'laryngeal') seen in Skt. dual neuter -_ī_. Forssman's hypothesis has been accepted by Mayrhofer in his _IdgGr_. 1, 127, n. 118, cf. p. 131. Forssman and Mayrhofer, however, do nothing to clarify under which conditions the two variants in question (i.e. *-_yə_$_1$ > Gk. *-_ye_ in _ósse_ vs. *-_iH_$_1$ > *-_ī_ in OCS _oči_, etc.) have developed, which is very strange considering the indisputable fact that the assumption of a development of *-_iH_$_1$_#_ into Gk. *-_ye#_ is in conflict with everything we know about the IE 'laryngeals', i.e. that they were consonants inherently less sonorous than the resonants *_y_, *_w_, *_r_, *_l_, *_m_, *_n_. Phonemically, the position */-yH/# is equivalent to */-yHC/ as we know from numerous examples, and we can see from Greek optative plural _eîmen_ < *_(e)s-īmen_ with the same -_ī_- as in Lat. _s-ī-mus_, Goth. _ber-ei-ma_, etc., that *_H_$_1$ was _not_ vocalized to _e_ in a sequence */CyH$_1$C/. See also Lindeman/Berg, _HS_ 108, 1995, 72, n. 76, for a criticism of Mayrhofer's unverifiable assumption (_IdgGr._, 1, 131) of a 'fallweise erscheinende Realisation von */-ih$_1$/# als *[-_i̯h_$_1$]# ...' in the parent language.

---

[93] Kuryłowicz writes: 'En indien le vocalisme suffixal du nom. sing. s'impose à l'accusatif: nom. *_pótn-ī_, acc. *_pótnii̯m̥_ > _pátnī_, _pátnīm_ (au lieu de *_pátniyam_). En grec c'est au contraire le vocalisme suffixal de l'accusatif qui l'emporte: acc. _pótnia(n)_, d'où nom. _pótnia_. La différence réapparaît au plur. neutre, cf. v. ind. _jānū(ni)_, mais grec _goûna_ < _gonwa_, lat. _genua_, hitt. _kenua_.' Kuryłowicz's statement here that the 'difference reappears' in the neuter plural is illogical, however: the phonologic structure of nom. and acc. neuter pl. IE */g'ónwH$_2$/ (> Ved. _jānu_[_ni_]) is identical to that of the nom. */pótnyH$_2$/.

For a refutation of M. Peters' untenable 'explanations' of the origin of the Gk. dual *-ye* (*Untersuchungen*, p. 128, A. 75) see Lindeman, *HS* 102, 287f. Further, it should be stressed here that the desinential morph of the IE nom. acc. dual neuter is **-ī* < **-iH*. There exists *no* material outside Greek which can help us decide the quality of the final 'laryngeal' of the neuter dual ending **-iH*: to posit **-iH*$_1$, then, rests entirely on the preconceived idea that the *-e* in Gk. *ósse must* represent a vocalized non-colouring 'laryngeal'. For Oettinger's erroneous morphemic analysis of the neuter dual ending **-ī* (*Laryngaltheorie*, pp. 355-359) see the critical discussion by Lindeman, *HS* 102, 287.

Toch. B *eś*, cf. *yneś* 'offenbar, leibhaftig'(< *'in the eyes'), A *aśäṃ*, gen. *aśnis*, B *eś(a)ne* presuppose PToch. **ak* + a palatalizing element which, in this case, remains undecided. The PToch. preform of A *aśäṃ*, etc. might be posited as **ak*$^{(w)}$*ye*, an analogical creation similar to that underlying Gk. *ósse* and Arm. *ačʿkʿ*. However, if, as W. Thomas teaches,[94] B *keni* 'knee' is in fact a singular form, its final *-i* may have nothing to do with the IE dual neuter ending **-ī*. Consequently, B *yneś*, *eś(a)ne*, A *aśäṃ* might represent the regular outcome in Tocharian of an IE dual neuter **okw-ī*. For a different analysis of these Tocharian forms see Klingenschmitt, *Fachtagung* V, 162, n. 21.

§ 48 b. Referring to 'lex Stang', Mayrhofer, *IdgGr.* 1, 163f. (with literature) teaches that the acc. sg. */-eH$_2$m/# (of stems in **-eH*$_2$ > **-ā*) developed into the attested **-ām#* in the same way as */-ewm/# in acc. sg. */dyewm/# 'heaven; god'—via **-emm#*, by assimilation—developed into **-ēm#* in acc. sg. **dyēm#* > Vedic *dyām*. See also Melchert, *Fachtagung* IX, 237f. It is not easy to understand how Chr. Stang's hesitant and ill-founded *suggestion* (in *Symbolae Kuryłowicz*, 295) has come to be construed as a law in the field of IE phonology: on the strength of the assumption that the acc. pl. **g*^{w}*ōs* 'cows' seen in Skt. *gāḥ* might be the regular outcome of an Early IE form **g*^{w}*ouns*, Stang (ibid. 295) proposes to account for the acc. pl. in **-ās* of **ā*-stems in the following way: 'Il est possible que la finale **-ās* de l'acc. plur. des

---

[94] *Tocharische Sprachreste Sprache B* Teil I: Die Texte Band 1 Fragmente Nr. 1-116, Göttingen, 1983, p. 149.

thèmes en _-ā-_ puisse être expliquée par la chute de _n_ entre _H_ et _s_: _*-eH$_2$ns_ > _*-eH$_2$s_. On ne peut pas, cependant, nier la possibilité que le développement ait été parallèle à celui de _*g^{w}ōs_, à savoir que _*-aH$_2$ns_ (< _*-eH$_2$ns_) ait donné _*-āns_, comme _*-ouns_ a donné _*-ōns_, le schwa fonctionnant comme une sonante dans le système phonétique indo-européen. En ce cas, il faudrait supposer que le même développement ait eu lieu à l’accusatif singulier: _*-aH$_2$m_ > _*-ām_ comme _*-oum_, _*-eum_ > _*-ōm_, _*-ēm_.’ Stang’s assumptions, however, are in obvious conflict with one of the few firmly established facts of IE phonology, i.e. that the IE ‘laryngeals’ did _not_ function as resonants in the IE phonologic system, but were consonants, inherently less sonorous than the resonants _*y_, _*w_, _*r_, _*l_, _*m_, _*n_ (see above § 19). Consequently, the supposed sequence */-eH$_2$m/# must have been realized as *[_-aH$_2$ṃ_]# in IE, cf. */podm/# = *[_podṃ_]# (Gk. _póda_): in both cases the phonetic environment is the same, i.e. */-VCR/#. Kuryłowicz, _ÉI_, I, p. 36, is therefore justified in writing: ‘... l’_ām_ de l’acc. sing. peut continuer soit _*-eə̯$_2$+m_ soit _-ā+m_ (refait d’après _-i+m_, _-u+m_, etc.) ...’ Cf. Lindeman, _IF_ 94, 1989, 5f. In this connection it should be noted that, despite the claim by D.A. Ringe, Jr., _MSS_ 52, 1991, 139, n. 6, the OIr. form _don_ (acc. sg. of _dú_ ‘ground, place’, cognate with Hitt. _tekan_, Luw. _tiyamm-i-_ ‘earth’), does not prove that the accusative sg. ending of ‘earth’ was ever _*-ōm_ < _*-omm_, by ‘Stang’s Law’, see the critical discussion by Lindeman, _Ériu_ XLIV, 1993, 168ff., who takes OIr. _don_ to represent an original genitive form.

For the accusative plural of the _ā_-stems which Mayrhofer, _IdgGr._ 1, 164, posits as */-eh$_2$ms/ for IE, I refer to Burrow’s convincing argumentation (_The Sanskrit Language_, p. 235) according to which this case form had no nasal in IE: ‘The feminine vocalic stems show no trace of _n_ in Sanskrit (_-ās_, _-īs_, _-ūs_, _r̥̄s_). This absence of _n_ is shown to be IE. in the case of stems in _-ā_ by the agreement of Indo-Iranian (Skt. _kanyā̀s_, Av. _urvarā̊_) and Germanic (Goth. _gibōs_). Non-distinction of nominative and accusative, which characterises neuters was originally characteristic of _-ā_ (_-aH_) stems when these had not become differentiated from the other neuters. It is preserved in the _ā_-formation which serves to provide the plural of neuter thematic stems (nom. pl. _yugā́_). The normal feminines have acquired the plural _-s_ of the non-neuter classes but they still retain in the plural the absence of distinction between nom. and acc.’

§ **48 c**. The _bio-_ (of _bíotos_ 'life') may be regarded as an analogically created form in Greek: _dō-_ (_dí-dō-mi_): _do-_ (_do-tós_) = _biō-_ (aor. _e-bíōn_ < *_g^wieH_3-_, cf. _IF_ 90, 62 f.): _x_; _x_ = _bio-_.

The source of the _-ia-_ of Gk. aor. _e-pría-to_ remains unknown: we would expect the zero grade of a stem *_k^wreyH-_ to have been *_k^wriH-_ > *_k^wrī-_ in preconsonantal position, and this is precisely what we find in Skt. _krī-tá-_, part. of _krīṇā́ti_ 'buys'. For a tentative explanation, cf. Lindeman, _KZ_ 100, 1987, 298, who assumes that the oldest form of the 1 sg. middle ending was *_-mH_2a_ in the dialect ancestral to Greek, i.e. that the *_-m-_ had been taken over from the active before the loss of prevocalic 'laryngeals'. A regular 1 sg. middle *_k^wriH-H_2a_ was remodelled into *_k^wriH-m̥H_2a_, the vocalic *_-m̥-_ of which is phonetic (according to Sievers-Edgerton's Law): the latter form would have given Gk. *_k^wriyama_, whence, with a new 'coupe morphologique', *_k^wriya-ma_ → *_k^wriya-mān_ (for the ending, see Watkins, _IdgGr._ III/1, p. 130). For Toch. B (pret.) _käryā-mai_, etc., see Schindler, _IF_ 72, p. 240, who compares it to OIr. (subjunctive) _-cria_ < *_k^wriH-_ + _-ā-_ (: _crenaid_ 'buys'). Cf. also Lindeman, _KZ_ 100, 297ff.

§ **48 d**. In Proto-Tocharian the IE preconsonantal sequences *_-iH-_ and *_-uH-_ yield regularly *_-ī-_ and *_-ū-_, respectively. For *_-iH-_ > *_-ī-_ cf. optative forms such as A _yām-i-mäs_, B _yam-ī-cer_ (§ 47). There is nothing to be gained from the citing of formally ambiguous examples: obviously, as long as the ambiguity continues to exist, the probative value of such material remains _nil_. Thus, despite Isebaert, _Phonological Reconstruction_, 39 (with references), PToch. *_pratsā$k^{(w)}$-_ 'breast' > B _pratsāko_, A _pratsak_ does not inevitably presuppose IE *_proti-H_3k^w-o-_ with precons. IE *_-iH_3-_ > PToch. *_-yā-_. Like Gr. _prósōpon_ 'face', PToch. *_pratsā$k^{(w)}$-_ can be from *_proty-ōk^w-_ (< *_proti-H_3ōk^w-_);[95] for the lengthened grade *_H_3ōk^w-_, cf. Gk. _ôp-a_ 'eyes, face', originally nom.acc.

---

[95] *[_proti-H_3ōk^w-_] > *[_proti-ōk^w-_] (after the regular loss of 'laryngeals' before vowels) > *[_proty-ōk^w-_] (with *_-i-_ > *_-y-_ by the 'converse of Sievers' Law'). For the Latin type _ferōx_, _-ōcis_ 'wild' < *_g'hwero-H_3k^w-s_ lit. 'having a wild face', see Hamp, _BSL_ 68, 1973, 92.

pl. neuter. See e.g. Pinault, _Tokharien_, 50, and cf. Mayrhofer, _EWAIA_ II, 177 (with further references). The regular zero-grade _*-iH_3-_ > non-Anatolian _*-iH-_ > _*-ī-_ is seen in Skt. _prátīka-_ n. 'face'. For Toch. B _śau-_ and A _śo-_ 'live' and related forms see below § 49 b. The _*śuwā-_ underlying Toch. B _śuwaṃ_, A _śwāṣ_ 'eats' is from older _*śäwā-_, the full grade of the singular of an athematic present active which can be reconstructed as IE (3 sg.) _*g'yéwə-ti_ (i.e. phonemically */g'yéwH-ty/); IE *ə, like IE _*a_, gives Toch. _*ā_, cf. B _tkācer_, A _ckācar_ 'daughter' vs. Skt. _duhitár-_. The 'laryngeal' of IE _*g'yewH-_ 'chew' may have left a trace in the _-ww-_ of Germanic _*kewwana-_ seen in OIcel. _tyggva_, OHG _kiuwan_, cf. § 58 below. The phonetic change of _*śäwā-_ to later _*śuwā-_ (> B _śuwaṃ_, A _śwāṣ_) is parallel to that of (IE _*newo-_ 'new' >) Toch. _*ñäwa-_ > _*ñuwa-_ > B _ñuwe_. For these and similar Tocharian forms, see Lindeman, Tocharian and the Laryngeal Theory, _KZ_ 100, 297ff.

§ 49 The sequences _*-ṛH-_, _*-ḷH_, _*-ṃH-_, _*-ṇH-_ underlie the so-called long syllabic liquids and nasals, cf. Skt. _pūrṇá-_ 'full', Lith. _pìlnas_, S.-Cr. _pȕn_ (< _*pḷH_1-nó-_ vs. _*pleH_1-_ in Skt. aor. _áprās_, cf. pres. _pṛṇā́ti_);[96] Skt. _tūrvati_ 'vanquishes' (_*tṛHwe/o-_) vs. Hitt. _tarhu_(_i_)- ~ _tarh-_ 'vanquish' (written _tar-hu-_, _tar-ah-_);[97] Skt. _ū́rṇā_ 'wool', Gk. Dor. _*lânos_, Ion.-Att. _lênos_,[98] Lat. _lāna_, Lith. _vìlna_, etc. < _*wḹ-n-_, originally _*HwḷH-n-_, cf. Hitt. _hulana-_ 'wool' (Friedrich, _KZ_ 77, p. 257), Luw. _*hulani-_ (cf. SÍG-

---

[96] See K. Strunk, _Nasalpräsentien und Aoriste_, 1967, for the type Skt. _pṛṇā́ti_ (< _*pḷ-néH_1-ti_), _gṛṇā́ti_ (< _*g^{w}ṛ-néH_2-ti_), _stṛṇā́ti_ (< _*stṛ-néH_3-ti_).

[97] See Laroche, _RHA_ 16, p. 96, cf. § 36, note 53 above. _tar-ah-_ may be for [_tarh-_] or [_trah-_], see Laroche, ibid., p. 96. Similarly, _pár-_(_a_)_h-_ = [_parh-_] or [_prah-_].

[98] M. Peters' reconstruction (_Sprache_ 33, 1987, 114f., accepted by Melchert, _AHPh._, 65, of a Proto-Gk. form _*wlēnā_ 'wool' > Cypr. _leína_, allegedly the direct outcome in Greek of an IE preform _*$H_{2/3}$wḷH_1néH_2_ rests on nothing, see the detailed discussion by Lindeman/Berg, _HS_ 108, 1995, 56-74. There is no reason to posit any other root vocalism than _*-lā-_ < non-Anatolian IE (preconsonantal) _*-ḷH-_ for the preform of Ion.-Att. _lênos_. It should be noted that the quality of the internal 'laryngeal' in the IE word for 'wool' cannot be securely decided.

la-ni-is, *StBoT* 30, p. 329), cf. also Hitt. *huliya-* 'wool';[99] Skt. *sā-tá-* (**sṇH-tó-*), cf. *sanóti, sánitar-, sani-ṣyant-*, etc. vs. Hitt. *sanhh-zi* (§ 36 above). The regular continuation of preconsonantal **-m̥H-* in Old Indic is *-ā-*, see Mayrhofer, *Quaderni dell'Istituto di Glottologia* 6, 1994, 198f. Mayrhofer refers inter alia to Forssman's derivation (*Sprache* 32, 1986, 22f.) of Vedic *sākám* 'auf einmal, zusammen' < **sm̥+Hk*^{w}*o-*.[100]

---

[99] The initial 'laryngeal' of IE **HwḷH-n-* 'wool' may have suffered a dissimilatory loss in the IE languages outside Anatolian, i.e. **HwḷH-n-* > **wḷH-n-*, which would explain the lack of a prothetic vowel in Greek (**lânos*), see § 66 ff. below, for the prothetic vowels of Greek and Armenian. Hitt. *hulana-* is of little help in deciding the quality of the medial 'laryngeal' of IE *$H_{2/3}$*wḷH-n-* since both *H_1 and (voiced) *H_2 and *H_3 seem to disappear in Hittite, cf. below § 95. Eichner, *Sprache* 24, p. 160, note 69, reconstructs *H_2*wḷ*H_2*-yo-* for Hitt. *huliya-* assuming that *H_2 was lost before **y* (cf. § 41, note 35 above); **Hwel-no-* underlying Lat. *vellus*, gen. *velleris* 'fleece' and Arm. *gełmn*, gen. sg. *gełman* 'fleece' seems to have had no medial 'laryngeal'.

[100] E.P. Hamp, *Glossologia* 2-3, 1983-84, 163ff., assumes the existence of a sort of Brugmannian *postvocalic* long [ṝ], [ḹ] in absolute final position in pre-Greek. Thus, on the pattern of neuter plural/collectives such as *húdōr* < **udṛ*H_2 (ibid. 164), Hamp hypthesizes a development *k^w*el*H_2 (adverb meaning 'far') > pre-Greek *k^w*eḹ* (defined phonetically as *[k^w*eəl*]) which 'then merged with the inherited vocalic system as *k^w*ēl*' (ibid. 164). The latter form was later thematized as *k^w*ēl-o-*, cf. *têle* (endingless locative according to Hamp). Hamp's assumption of a development such as *k^w*el*H_2 > *k^w*eḹ* is in obvious conflict with Sievers' Law: after a vowel and before a consonant or in absolute final position, a resonant was consonantal in Indo-European. Also, the proposed change of **udṛ*H_2 > Gk. *húdōr* remains unexplained, and, hence, totally *ad hoc*: it is of little help to refer—as Hamp does, ibid. 164—to Gk. *pôlos* 'foal, filly' since this is an inherited *o*-stem: as Arm. *ul* 'a kid' and *am-ul* 'sterile' (< **ń̥-pōlo-*) show, Hamp's reconstruction of an IE **pḷH* > pre-Gk. **pōl*, later thematized to **pōl-o-*, should be firmly rejected as unjustifiable. Equally unverifiable is K.T. Witczak's proposal (*Glossologia* 9-10, 1990-1991), 11, according to which the IE word meaning 'foal' should be reconstructed as **pḷ́*H_3*H-o-s*, an 'explanation' which is nothing but pure invention. For the cited Armenian forms see Meillet, *Esquisse*, 48 (with references). Reconstructing the IE verb meaning 'turn' (Skr. *car-* 'move') as *k^w*el*H_1*-*, Harđarson, *HS* 108, 1995, 205f., explains Gk. *têle* as a direct reflex of an IE locative sg. (with lengthened root-vocalism) *k^w*ēl*H_1. However, this reconstruction rests on nothing but the preconceived idea that the *-e* of *têle must* represent a 'vocalized' *e*-colouring 'laryngeal'. Also, there is nothing that forces us to accept that Gk. *têle* cannot, in the final analysis, be from an inherited *aniṭ*-root form (cf. aor. *é-pl-e-to* and see above § 31).

Remark: For the coexistence of forms like Gk. *kámatos* and *kmātós* (< *kámnō*) see Kuryłowicz, *IdgGr*. II, 249f.: ‘Neben der lautlichen Behandlung von idg. *-Ṛə-tó-* (*-Ṝ-tó-*) im Gr. Lat. Kelt. (> *Rā*) kommt in den Südsprachen eine anscheinend ebenfalls phonetische Behandlung dieser Lautgruppe in Betracht, nämlich *-aRa-tó-*. In Wirklichkeit ist es eine morphologisch bedingte Schwundstufe, die ähnlich wie das Eindringen von *aR* an Stelle von *R* in anit-Wurzeln ... zu erklären ist:

	Vollstufe	**Vorkonsonantische Schwundstufe**
ältere Behandlung	*-eR-*	*-Ṛ-tó-*
	-eRă-	*-Rā-tó-*
jüngere Behandlung	*-eR-*	*-aR-tó-* (vgl. § 315)
	-eRă-	*-aRa-tó-*

Beide Schwundstufen sind belegt in Beispielen wie airisch *lám* ‘Hand’ : gr. *palámē*, lat. *palma* (< **pala-mā*); gr. *tlētós* usw. (**telə* ‘ertragen’) : airisch *talam* ‘Erde, Boden’; gr. *dmētós* usw. (**demə* ‘zähmen’) : *adámatos*, kymr. *dafad* ‘Schaf’.’

For a criticism of Hoenigswald’s assumption (*Laryngaltheorie*, 199ff.) that e.g. *kámatos* reflects IE $*k'_{e}mH_{2e}tos$ and *kmātós* earlier $*k'm_{e}H_{2}tos$, see Lindeman, *HS* 102, 1989, 283f.: Hoenigswald’s ‘rule’ according to which a non-phonemic syllabic segment ([$_e$]) makes ‘its appearance automatically between consonants after every sequence of two consonants’ (ibid. 199) has been formulated on the ground chiefly of Greek alternations of the type *ra* : *ar* which in their turn constitute the only evidence for the original existence of the ‘rule’ in question in the parent language. It is only in Greek that $*_{e}r$ and $*r_{e}$ lead to different results (*ar* vs. *ra*); in all the other non-Anatolian IE languages we find *one* reflex only, e.g. Gmc. *ur*, Celtic *ri*, etc. (For Celtic *ar* in OIr. *arcu* and similar forms, see Kuryłowicz, *IdgGr*. II, 243ff.). Hoenigswald’s [$_{e}r$] > Gk. *ar* corresponds to Hirt’s *Reduktionsstufe* [ɒr] > Gk. *ar*, see Hirt, *IdgGr*. II, 1921, 92. Hoenigswald, *Fachtagung* IX, 143, reiterates his earlier claims regarding Proto-Greek. Phonetic speculations without any basis in systematic phonemic reasoning dominate M. Meier-Brügger’s discussion (*Fachtagung* IX, 227ff.) of Gk. *aáatos* (which he takes to be a derivative of IE $*senH_{2}$- seen in Skt. *sanóti* ‘gains’). However, as demonstrated by Catsanicos, *Recherches sur le vocabulaire de la Faute*, Gk. *aáatos* means ‘qui prend en faute, en défaut’ and, together with *a(w)áomai* and other Greek forms, goes back ultimately to an IE verb theme $*H_{2}wem$- ‘faillir’, see below § 69.

§ 49 a. In Tocharian—as in Germanic and Armenian—IE preconsonantal */ṝ/, */ḹ/ (< **ṛH*, **ḷH*) have fallen together with (short) */ṛ/, */ḷ/, cf. B *kärweñe* ‘stone’ < **kärwan-ya-*, IE $*g^{w}ṛHwon\text{-}yo$- (cf. Skt. *grā́van-* ‘stone for pressing out the Soma’), and B **pällew* ‘Vollmond(stag)’ < **pälna-w-*, IE $*pḷH_{1}no\text{-}w$- (from the stem $*pleH_{1}$- ‘fill’), etc. Cf. the discussion by Lindeman, *KZ* 100, 297ff.

Remark: L. Isebaert, _Phonological Reconstruction_, 39-45, thinks that IE *H_1, which has left no trace in B _*pällew_, behaved differently from the other 'laryngeals' in Tocharian. Trying to explain away the evidence of forms such as _kärweñe_, B _parwe_ 'at first', _pärweṣṣe_ 'first', A _pärwat_ 'oldest' < PToch. _*pärwa-_ (= Vedic _pūrva-_ < IE _*pr̥Hwo-_, cf. Lindeman, _KZ_ 100, 302, with references), Isebaert postulates an _Indo-European_ (ibid. 41) 'laryngeal' metathesis in a sequence of the type _*CrHwV-_: thus, _kärweñe_ is taken to presuppose IE *g^wruH_2on- < orig. *g^wr̥H_2-won-, by metathesis of *H_2w > *uH_2. Similarly, B _parwe_ is said to come from a metathesized IE *$pruH_3o$- < orig. *pr̥H_3-wo-. Phonologically, however, Isebaert's metathesis rule—which is no more than an _ad hoc_ invention—makes little sense. According to Isebaert's own definition (ibid. 43), there was no metathesis if the phoneme preceding the 'laryngeal' was not a consonant. Thus, whereas B _puwar_, pl. _pwāra_ 'fire', is taken to come from *puH_2ōr < *pH_2wōr 'with metathesis avoiding the vocalization of *h_2 ...' (ibid. 42), A _por_ is said to reflect _*paur_ < IE *peH_2wr̥ without metathesis (ibid. 43). Phonetically, however, the [r̥] preceding the 'laryngeal' in *g^wr̥H-won- and _*pr̥H-wo-_ functions as a vowel[101] in exactly the same way as the _*e_ > _*a_ in *peH_2wr̥ > *paH_2wr̥ (Hitt. _pahhur_). Moreover, as the IE 'laryngeals' were consonants inherently less sonorous than the resonants _*y_, _*w_, _*r_, _*l_, _*m_, _*n_, it follows that what is reconstructed phonemically as */pHw-V-/ would have been realized phonetically as *[_pHu-V-_] (according to Sievers' Law). Consequently, *[_pHuōr_] 'fire' would give non-Anatolian IE (hiatic) *[_puōr_] (after the loss of the prevocalic _*H_), whence later *[_puwōr_] (with a glide _-w-_). This _*puwōr_ is precisely the preform which—according to Isebaert—underlies B _puwar_.

§ 49 b. It should further be stressed that forms like B _lāre_ 'dear', AB _krās-_ 'verdriesslich sein, sich ärgern', B _slakkare_, A _slākkär_ 'moving, agile' do not display phonetic reflexes of IE (preconsonantal) _*lH_, _*rH_ any more than do Gk. _(w)rag-_ (cf. aor. pass. _rhagênai_ : _rhḗgnūmi_ 'break asunder' < *$wreH_1g$-), Lat. _ratus_ (ptc. of _reor_ 'reckon'), _laxus_ 'wide, loose', Goth. _lats_, OHG _slaf_, _blat_, etc.: we are here dealing with analogical formations _*lad-r-_, _*kras-_, _*slag-_, _*wrag-_, etc., which owe their shape to the replacement of the inherited alternation _(C)RV̄_ ~ _(C)R̥̄_ (with /R̥̄/ < _*R̥H_, cf. below § 100) by _(C)RV̄_ ~ _(C)Ră_ on the morphologic model of _*dhē-_ 'put' ~ _*dhă-_ (cf. Lat. _fēci_ ~ _făctus_), _*dō-_

---

[101] It is worth noting in this connection that the Vedic alphabet comprises nine simple vowels of which r̥ is one.

'give' ~ *_dă-_ (cf. Lat. _dōnum_ ~ _dătus_).[102] _Indo-European_ reconstructions of the type *_ləd-r-_, *_krəs-_, *_sləg-_, *_bhlədh-_, etc., being meaningless, should be abandoned. The remodelling which resulted in the creation of such PToch. forms as *_lad-r-_ > B _lāre_, *_slag-_ > B _slakkare_, etc., participle *_-usya_[103] > B _(yām)usa_, A _(yām)us_ would have taken place in pre-Tocharian. Cf. Lindeman, _KZ_ 100, 302.

§ **49 c**. Recently, L. Isebaert, _KZ_ 100, 1987, 304ff., proposes to take Toch. B _lāñe_ 'autumn', the original meaning of which he defines as 'flood', to come from PToch. *_wlāmye_ < IE *_wl̥_$H_{2/3}$_-mi-_ = Vedic _ūrmí-_ 'a wave, billow'. This is most unconvincing, however. B _lāñe_ being formally ambiguous does not inevitably presuppose a PToch. form *_wlāmye_: there is no formal proof that _lāñe_ ever began with a *_w-_; the source of the radical vowel is likewise unknown (< ? *_ă_, *_ā_, *_ō_). There are also semantic difficulties connected with Isebaert's etymological explanation: with regard to B _lāññe war_ lit. 'autumn water', W. Couvreur observes: 'Daar de Indische herfst onmiddellijk na de regentijd, door een hoge waterstand wordt gekenmerkt, betekent "herfstwater" tevens "hoogwater".' (See W. Thomas, _Tocharische Sprachreste. Sprache B_ Teil I: Die Texte, Band 1, 204). It is possible, therefore, to speculate that _lāñe_ originally meant 'rain(s)' (> 'the rainy season'; 'autumn'), a meaning which differs fundamentally from that of Vedic _ūrmí-_ 'a wave'.

§ **49 d**. Several contemporary scholars regard Greek forms like _(kasí-)gnētos_ 'brother' (from *_g'en_H_1_-_/*_g'ne_H_1_-_ 'beget, bear'),

---

[102] See Kyryłowicz, _Apophonie_, 134, 175, 209. I do not, however, see any justification for Kuryłowicz's view (op. cit. 166f.) according to which there was a triple representation of schwa in a word of the type */pHtér-/ 'father', i.e. _ă_ in the southern languages (Celtic, Italic, Greek, Armenian, cf. Lat. _pater_), _o_ > _ă_ in the northern languages (Germanic, Baltic, Slavic, cf. Goth. _fadar_), _i_ in Indo-Iranian, cf. Ved. _pitár-_. See also above § 26, n. 17.

[103] *_-usya_, like Gk. *_-usya_, has replaced earlier *_-usī_ = Vedic _-uṣī_ < IE *_-usi_H_2_#_ according to the following analogical proportion: full grade *_stā-_ 'stand' : zero grade *_stă-_ (e.g. ptc. *_stă-tós_) = full grade *-[_us_]-_yā-_ (e.g. in gen. sg. *-[_us_]-_yé_H_2_-s_): zero grade _x_; _x_ = *-[_us_]-_yă_. Cf. Lindeman, _KZ_ 100, 302, n. 20. For Gk. *_-usya_ see also Cowgill, _EvfL_, 150.

Dor. _tlā-tós_ 'patient; to be endured', and _strō-tós_ (from _stórnūmi_ 'spread') as the regular outcome in Greek of IE zero grade forms of the type *_g'ṇH_$_1$_-tó-_, *_tḷH_$_2$_-tó-_, and *_stṛH_$_3$_-tó-_, respectively. In other words, Gk. _-ē-_, _-ā-_ and _-ō-_ (in _gnē-_, _tlā-_, and _strō-_) are considered evidence for the maintenance of the different timbres of the 'laryngeals' (*_H_$_1$, *_H_$_2$, and *_H_$_3$) in the IE dialect ancestral to Greek, see e.g. Mayrhofer, _IdgGr_. 1, p. 128 (with further references).

This, however, is unacceptable to us since we believe—for the reasons set forth in § 86—that the Greek triple representation of Schwa is a Greek innovation. We think that some Greek forms in _-ē-_ and _-ō-_ may possibly reflect a _secondary_ full grade, cf. Kuryłowicz, _Apophonie_, p. 134, _IdgGr_. II, p. 223. Thus, Vedic _prā-tá-_, Lat. _-plē-tus_, and (probably) Arm. _li_ 'full' would seem to point to the existence of a verbal adjective *_plē-tó-_ (from *_pleH_$_1$_-_ 'fill', Skt. _pṛṇā́ti_ 'fills') with a full grade vocalism in a type of formation that normally requires zero grade, e.g. Skt. _ga-tá-_, from _gam-_ 'go' (*_g_^{w}_em-_). Once we admit the occurrence of *_plē-tó-_ (for *_pḹ-tó-_, cf. Skt. _pūrṇá-_ < *_pḹ-nó-_) at some stage of Indo-European, the existence of *_plē-tó_ (for expected *_pḹ-tó_), 3 sg. middle aorist, cannot be excluded _a priori_. The latter form may have survived in Gk. _plê-to_ (: _pímplēmi_). Lindeman, _Triple representation_, pp. 42 and 46, sees a corresponding secondary full grade in _(kasí-)gnētos, blē-tós, blê-to_ (from _bállō_ 'throw'), and in a form like _strō-tós_; cf. also Lejeune, _Phonétique historique_, 198 f. and Kuryłowicz, _IdgGr_. II, 253 f.

Formally, Gk. _zō-(wó-)_ 'living' (cf. probably Myc. man's name _zo-wo_) < secondary full grade *_g_^{w}_yō-(wó-)_ is to zero grade *_g_^{w}_ī-(wó-)_ in Skt. _jī-(vá-)_, etc., cf. § 47, exactly as Gk. _strō-(tó-)_ < secondary full grade *_strō-(tó-)_ is to zero grade *_stṝ-(nó-)_ in Skt. _stīr-(ṇá-)_ from √_stṛ-_ 'strew' (pres. _stṛṇā́ti_ < *_stṛ-né-H_$_3$_-ti_). An IE full grade */g^{w}yeH$_3$-/ is securely attested by Avest. _ǰyā-tu-_ 'life' and Gk. aor. _(e-)bíō_, and, perhaps, also by Arm. _keam_ 'I live' if this is from dissimilated *_g_^{w}_iex_$^{(w)}$-, see § 40, _Remark_. Further, the Gk. verb *_zōw-e/o-_ (Hom. 3 sg. pres. ind. _zṓei_) 'live' < *_g_^{w}_yōw-e/o-_ is to Skt. _jīva-ti_, Lat. _vīvō_, etc. < *_g_^{w}_īw-e/o-_ as the cited Gk. _zōwó-_ is to Skt. _jīvá-_, Lat. _vīvus_: this secondary full grade _*g^wyōw-_[104] may also be attested by the Tocharian verb B _śau-_, _śai-_, A _śo-_ 'live'. To judge from forms like 3 pl. pres. B _śaweṃ_ and A _śāweñc_, the underlying PToch. verb stem was _*ś(y)āwä/a-_ (< _*gwyōwe/o-_), cf. Schindler, _Kratylos_ 15, 149. The mediopassive present participle form of this verb can be posited as _*ś(y)āwa-māna-_ for Proto-Tocharian, whence B _śamāne_, A _śāmāṃ_, see Pinault, _Tokharien_, 53f. (with further references), and see Winter, _TIES_ 2, 1988, 211fff., for the possible reduction of pre-B */śawemane/ to /śamane/ (before the accent came to rest on /man/ > B _mān_; cf. Winter, _TIES_ 5, 1991, 54, for the corresponding A form.[105]

According to K. Hoffmann, _MSS_ 41, 84f., Gk. _-rrēn-_ in Hom. _polú-rrēnes_ 'viele Lämmer besitzend' comes from _*-wṛH_1n-_ showing precons. _*-ṛH_1-_ > Gk. _-rē_. Hoffmann's analysis is inconclusive, however. A form like gen. sg. _arnós_ < _*wṛnós_ proves that the stem _*wren-_ 'lamb' did not contain any internal 'laryngeal'. In compounds we expect the nom. sg. of the stem _*wren-_ to appear as _*wrēn_ in Greek according to Sievers' Law (see Kuryłowicz, _Apophonie_, 121, Lindeman, _NTS_ 20, 72). The latter form is attested by _polú-rrēn_; for the nom. sg. of the simplex, i.e. _arḗn_, see above § 36. To an inherited nom. sg. _*wrēn_ a gen. sg. _*wrēnós_ and a dat. sg. _*wrēní_ may have been created according to the following analogical proportion: _*ghwēr_ (_thḗr_) : _*ghwērós_ (_thērós_), _*ghwērí_ (_thērí_) = _*wrēn_ : _x_; _x_ = _*wrēnós_, _*wrēní_ (cf. Hsch. _-rrēni_).

Examples of secondary full grade forms outside Greek: Skt. (AV) _khyātá-_ (: _khyā-_ 'see'), (AV) _drāṇá-_ (: _drā-_ 'sleep'), _yā-tá-_, Avest. _-yāti-_ (: Skt. _yā-_ 'go'), Avest. _rāta-_, _rāti-_, Skt. _rā-tá-_, _rā-tí-_ (: Skt. _rā-_ 'give'), _ájñāta-_, _jñātí-_ (: _jñā-_ 'know'), _dhmā-tá-_ (: _dhmā-_ 'blow'), _pyā-tá-_ (: _pyā-_

---

[104] Or, perhaps, a dissimilated _*g^wyāw-_ < _*g^wye$x^{(w)}$w-_, cf. Arm. _keam_.

[105] Formally, B _śaiyye_, pl. _śānta_ 'sheep' would seem to correspond to Gk. _zṓïon_ 'living being, animal' < _*g^wyōw-io-m_, see Van Windekens, _Le Tokharien confronté avec les autres langues indo-européennes_ I, Louvain, 1976, 468, who quotes Pisani's observation that _gjë e gjallë_ lit. 'living (_gjallë_) thing' means 'livestock' in Albanian. Winter, _TIES_ 2, 1988, 217, argues that A _śāyu_ means 'sheep' in A 340b3 _tmāk kū pākär tā_ (— —)_ts kapśño empele entsāt oṅkaṃ śāyū oki_ which he translates as 'then a dog appeared ... with an awsome body; it held the man like a sheep'. Finally, a stem _*g^wyōw-_ may underlie also B _śaul_, A _śol_ 'life' and B _śaumo_ 'man', pl. _śāmna_ (for which see Winter, _TIES_ 2, 1988, 214ff.).

'fill up') *śrā-tá-* (: *śrā-* 'boil'), Germanic **sēđi-* (for **sađi-*) in Goth. *mana-seþs*, OHG *sât* (: Gmc. pres. **sē-jana-*), cf. Goth. *ga-deþs*, OHG *tât* (< **dhē-*). See Kuryłowicz, *Apophonie*, pp. 251 and 216 ff. Formally, Celtic **gnī-to-*, seen in e.g. the OIr. preterite passive *-gníth* (< √*gnī-* 'make, do') may correspond exactly to the *-gnē-to-s* attested by the cited Gk. *(kasí-)gnētos*. For the meaning 'make, do' of OIr. *gní-* see Pedersen, *VKG* II, 544: 'zeugen' > 'hervorbringen' > 'machen'.

§ **49 e**. As the 'laryngeals' were consonants inherently less sonorous than the resonants, it follows that IE */$\mathrm{g^wyH_3w}$ó-/ 'alive' must have been phonetically *[g^wiH_3*wó-*] with a vocalic [*i*] followed by a consonant cluster *H_3w. We know that **-VHC-* gives *-$\bar{V}C$- by compensatory lengthening (after the loss of **H*) in all the non-Anatolian IE languages (e.g. **-uH-* > **-ū-* in Skt. *bhūtá-*, aor. *ábhūt*, Gk. *éphū*, Lith. *bū́ti*, or in Skt. *dhūmá-*, Lat. *fūmus*, OCS *dymъ* 'smoke' vs. Hitt. *tuhh-*, i.e. [*duhh-*], in *tuhhima-* 'difficult breathing', *tuhhui-* 'fumée, vapeur' (cf. § 47). Here belongs also Gk. *thūmós* 'courage', cf. *thūmíē* 'incense', *thūmiáō* 'smoke' (trans. intrans.), see Mayrhofer, *EWAIA* I, 795, with references. Consequently, we would expect IE *[g^wiH_3*wó-*] to develop into non-Anatolian IE *g^w*īwó-* which is the form attested by Skt. *jīvá-*, Lat. *vīvus* and OCS *živъ*. The precons. sequence *-iH_3- has likewise given *-ī-* in Gk. *pî-thi* (imper.), cf. *pôma* 'draught' < *peH_3-, and OCS *pi-ti* 'drink' and in Skt. *pī-tá-*, ptc. of *píbati* 'drinks'. For these reasons it is obvious that *zōó-* 'alive' cannot be the regular outcome in Greek of IE *[g^wiH_3*wó-*], see above § 49 b.

Consequently, we can safely discard as phonologically unjustifiable Normier’s suggestion (_KZ_ 91, 1977, 182, n. 26; _KZ_ 94, 1980, 273, n. 86) according to which IE (precons.) *_iH_$_2$, *_uH_$_2$, *_iH_$_3$, *_uH_$_3$ yielded regularly Gk. _yā_, _wā_, _yō_, _wō_.[106]

---

[106] For IE *_iH_$_1$, *_uH_$_1$, however, Normier assumes a phonetic development into Gk. _ī_ (e.g. opt. _eîmen_ < *_H_$_1$_s-iH_$_1$_-me-_, _pī́ōn_ = Skt. _pī́van-_ ‘fat’ < *_piH_$_1$_we/on-_) and _ū_ (e.g. _phū-_ < *_bhuH_$_1$_-_, _hū-s_ ‘wild swine’ < *_suH_$_1$_-s_). This, however, is inconclusive since nobody knows anything about the original quality of the ‘laryngeals’ that formerly existed in ‘fat’ and ‘swine’; we know that there were two extended forms of *_bhew-_, i.e. *_bhw-eH_$_2$_-_ (Lat. ipf. _-bā-_) and *_bhw-eH_$_1$_-_ (OCS ipf. _bě_ ‘was’). Further, if it is true that the different ‘laryngeals’ all fell together under one colour in non-Anatolian IE (§ 101), the _-ī-_ in non-Anatolian IE *_pī-we/on-_, like that in the zero grade of the optative suffix (Lat. _sī-mus_, etc.), and the _-ū-_ in *_sū-s_, *_bhū-_ all reflect non-Anatolian IE (preconsonantal) *_-iH-_ and *_-uH-_, respectively. (For J.S. Klein’s views, _Laryngaltheorie_, 263, 265f., on the developement of *_iH_$_1$ in Greek see Lindeman’s critical discussion in _HS_ 102, 273). Several of the Greek examples adduced by Normier are etymologically obscure, e.g. _zōró-_ ‘pure’, _dízēmai_ ‘seek out, look for’, _zētéō_ ‘seek (for)’, cf. Arc. _zātós_; for _Pā́n_, which Normier would like to identify formally with Vedic _pūṣán-_, see Mayrhofer, _EWAIA_ II, 158f., with further references. Normier thinks that Hom. _ēnoréē_ ‘courage’ reflects Proto-Gk. *_hwānor-_ = Vedic _sū-nara-_ ‘bountiful’. I find no fault, however, with the traditional explanation according to which _ānor-_ has been extracted from a compound of the type _euanoría_ (Pi.), see Frisk, _GEWb_. I, 107, Chantraine, _DELG_, 88. It should be noted that the initial ‘laryngeal’ of ‘man’ was *_H_$_1$_-_ rather than *_H_$_2$_-_, see § 66. Further, there is nothing to prove that Gk. _dērós_ ‘long’ comes from *_duH_$_2$_ró-_ (> Vedic _dūrá-_): the coexistence of *_dweH_$_2$_ró-_ (> *_dwāró-_ in _dērós_ and Arm. _erkar_ ‘long’) and *_duH_$_2$_ró-_ (> Vedic _dūrá-_) is no more surprising than that of *_bhoydro-_ (> Goth. _baitrs_) and *_bhidro-_ (> OHG _bittar_). See also Wackernagel-Debrunner, _Altindische Grammatik_ II.2, 853, for OIndic examples with full grade root vocalism before the accented suffix _-rá-_. This argument likewise applies to B.A. Olsen’s conjecture regarding the origin of Arm. _erkar_ ‘long’ (_Proceedings of the IVth International Conference on Armenian Linguistics_, ed. J.A.C. Greppin, New York, 1992, 129ff); Arm. _stuar_, gen. pl. _stuarac_^{c}, ‘thick; strong’ may represent Proto-Arm. *_stuwaro-_ < IE *_stōwH-ṛo-_ (: zero grade *_stuH-ró-_ > Skt. _sthūrá-_ ‘thick’), a preform underlying also the RV hapax (pl. f.) _sthā́virīs_ (9, 86, 4) which, according to Renou, _Études védiques et pāninéennes_ IX, p. 31, notes, ibid. 95, means either (a) ‘des (prières) substantielles’ (cf. RV 1, 181, 7), or, ‘faites pour Indra ou provenant d’Indra en tant que dieux _sthávira_’; Ved. _sthávira-_ means ‘thick, compact, strong’. For the phonologic development in Armenian cf. the word for ‘fox’, _ałuēs_, gen. sg. _ałuesu_, the Proto-Arm. stem of which was *_aluwes-_ = Gk. _alōpek-_. Further, there is no evidence for the existence of an initial cluster of the shape #_mw-V-_ in IE. This may be due to an early

Normier, _KZ_ 91, 182, n. 26, takes the Gk. word for 'breakfast' to have been _ā́rīston_ < IE *_H_2eyeri-H_1d-to-_ (< √_H_1ed-_ 'eat'). But we have no philological or linguistic evidence indicating that the _-i-_ of _ā́riston_ was ever phonemically long in Greek. It is further extremely implausible that _ā́riston_ is an old, ie. IE, compound of a loc. sg. *_H_2eyeri_ > *_ayeri_ (cf. Avest. _ayarə_ n. 'day') and the neuter form (*_H_1d-tó-m_) of the participle of *_H_1ed-_ 'eat'. According to the accepted IE morphologic rules we would expect the first member to be made from the bare stem of the oblique cases, *_H_2ey(e)n-_ > *_ay(e)n-_, cf. Avest. _ayan-_, i.e. (schematically) *_H_2eyn̥-H_1d-to-m_ > non-Anatolian IE *[_ayn̥̄-tstom_] which we would expect to yield Gk. *_ayā-ston_: it is thinkable, therefore, that a morphologically less opaque form *_ayeri_ has been substituted at some stage of Greek for the original *_ayā_ in this compound, i.e. *_ayā-ston_ → *_ayeri-ston_.

Hamp, _REArmNS_ XXI, 1988-89, 26, follows R. Godel, _In Memoriam Haïg Berbérian_, ed. D. Kouymjian, Lisboa, 1986, 267f., in equating Arm. _kʿaw_ 'intact, integer' with Gk. _sôs_, _sáwos_ 'safe and sound'.

---

simplification of #_mw-V-_ > #_m-V-_. If so, Gk. _mōró-_ 'dull; stupid (of persons)' could be the regular reflex of a full grade (theme II) *_mw-oH-ró-_ (> *_m-oH-ró-_) which, as far as ablaut is concerned, would be to the zero grade *_muH-ró-_ (in Vedic _mūrá-_) as Goth. _baitrs_ is to OHG _bittar_. Also, there is no way of proving that the medial 'laryngeal' in the preform of Vedic _mūrá-_, etc., was ever *H_3. Normier's equation (_KZ_ 94, 273, n. 86) of _Aísōpos_ (supposedly from Proto-Gk. *_antyōk^{w}o-_) with Lat. _antīquus_ < IE *_H_2enti-H_3k^{w}o-_ is ill-founded. _The Oxford Classical Dictionary_^{2}, 1970, teaches that 'Aesop the fabulist came originally not from Phrygia (this was a later literary invention), but from Thrace, according to the testimony of the local chronicler Eugean of Samos who wrote before 431 B.C. What Eugeon said about Aesop's origin is implied by Herodotus in speaking of Rhodopis of Thrace as Aesop's fellow slave, and his other statements are not in conflict with Herodotus' account of Aesop (ii. 134-5).' Cf. also _Lexicon der alten Welt_, Zürich-Stuttgart, 1965, Sp. 56: 'Nach der besten Überlieferung (Arist. Fr. 573 R) war er Thraker und kam im Sklavenhandel nach Samos.' (L.W. Daly, Philadelphia). The name _Aísōpos_, however, remains unexplained. The element _ais-_ might possibly represent Thracian _aiz-_ 'goat' (cf. Gk. _aíks_, gen. sg. _aigós_, Arm. _ayc_ 'goat') which, according to Duridanov, _Die Sprache der Thraker_, 1985, 20, 73, 109, occurs in _Aizikē_ 'Goat-land (?)', name of a part of Thrace. Aesop's name has also been considered an ablaut form of the Phrygian river name _Aísēpos_ (Hesiod Th. 342, Iliad 12. 21), see W. Schmid, _Geschichte der griechischen Literatur_ T-1, Bd. 1, 1929 (= _Handbuch der Altertumswissenschaft_ VII. 1. 1).

According to Hamp, the underlying IE form is *_tw_^{o}ə$_{2}$_-wo-_ = *_twə_$_{a}$_-wo-_ = *[_twH_$_{a}$_-wo-_] (< IE *_tewH_$_{2}$- seen in Skt. _tavīti_ ‘is strong’) yielding *_twa-wo-_ > Gk. _sáwo-_ and Arm. _kʻaw_. But we do not expect any ‘vocalization’ of the ‘laryngeal’ in */twHwo-/, which, according to § 16, would be realized phonetically as [_tuHwo-_], cf. the structurally parallel (with suffix *-_yo-_) Vedic _tū́-ya-_ ‘strong’ (*_tuH-yo-_). A simpler explanation may be sought along the following lines. Godel, op. cit. 266, stresses the occurrence of an adjectival suffix _-aro-_ both in Armenian and Greek: Arm. _ardar_ ‘just, loyal’, _molar_ ‘false’, Gk. _katharós_ ‘clean’, _liparós_ ‘greasy’ and similar forms. (The suffix form _-aro-_ here would seem to represent the generalization of the variant form *[-_r̥o-_] occurring after a preceding heavy syllable according to Sievers’ Law). Consequently, it is possible to speculate whether a suffix form _-awo-_ may not have replaced earlier *-_wo-_ in the original formation *_tuH-wo-_ after the analogical model of forms in _-aro-_, i.e. (schematically): _stem form+-aro-_ (type continued in Arm. _ardar_) = *_tuH-+awo-_. The latter form, after the loss of the intervocalic ‘laryngeal’, would have given (hiatic) *[_tuawo-_], whence, by the converse of Sievers’ Law, *_twawo-_ > Arm. _kʻaw_ and Gk. _sáwos_.

§ 49 f. Since the ‘laryngeals’ were consonants inherently less sonorous than the resonants *_y_, *_w_, *_r_, *_l_, *_m_, *_n_, it follows that the PToch. middle participle suffix *-_māna-_ e.g. in *_āka-māna_ > B _ake-mane_, A _āk-māṃ_ (from AB _āk-_ ‘lead’ = Lat. _ag-ō_) cannot reflect a preform *-_mə_$_{1}$_no-_ which is supposed to occur also in Gk. _-menos_ (see the references given in Lindeman, _Triple representation_, 48f.)[107] This widely held view is unjustifiable for phonologic reasons: a postulated IE form of the (schematic) shape */H_{2}eg’omH_{1}no-/ = phonetically *[_H_$_{2}$_ag’omH_$_{1}$_ṇo-_] (see § 87) would have yielded non-Anatolian IE *_ag’omṇo-_ (after the loss of the ‘laryngeals’) the vocalic nasal [_ṇ_] of which probably would have become consonantal _n_ by the ‘converse of Sievers’ Law.’ (Cf.§ 87). Gk. _-menos_ (and possibly Phryg. _-menos_, for which cf. Klingenschmitt, _Fachtagung_ V, 163, n. 24) may represent the _e_-grade of the suffix in question. I see no fault with Stang's explanation (_Das slavische und baltische Verbum_, 207) according to which _-manas_ in the OPruss. hapax _poklausīmanas_ 'erhört' may reflect IE _*-monos_ (cf. Stang, _VerglGramm._, 10, 446). The cited PToch. form _*-māna_ would seem to reflect a generalized _a_-umlaut of an original _o_-grade: _*-monā_ (fem. sg. and neuter pl. _*-monaH_$_2$) should give PToch. _*-mānā_ (with _-ā-_ under the influence of the following _*-ā_).[108]

---

[107] Such a preform is rejected as implausible also by Melchert, _Sprache_ 29, 1983, 24, although for different reasons.

OIndic _-mānas_ may go back to _*-monos_ (Brugmann's Law). We may, therefore, reconstruct the following ablaut forms of the middle participle in question: (1) _*-mno-_ (e.g. Avest. _-mna-_, Arm. _-un_, type _gnayun_ 'mobile', Lat. _alumnus_ 'a nursling, etc.', probably also Venetic _-mno-_[109]); (2) _*-meno-_ (Gk. _-meno-_) ~ (3) _*-mono-_ (OPruss. _-manas_, OIndic _-māna-_, cf. PToch. _*-mānā_). A morphologic parallel may be seen in the suffix of the present participle active: zero grade _*-ṇt-_ (e.g. _*y-ṇt-é/ós_ in Vedic _yatás_, gen. abl. sg. of _yánt-_ < √_i-_ 'go'); _e_-grade _*-ent-_ (_*y-ent-_ in OLith. _ent-_, Daukša _enti_, etc. : _eĩti_ (see Stang, _Das slavische und baltische Verbum_, 205, _VerglGramm._, 100); _o_-grade _*-ont-_ (_*y-ont-_, partly transformed in Lat. _euntis_, Sommer, _Handbuch der Lat. Laut- und Formenlehre_^{2}, 498, cf. Gk. _íōn_).

H. Craig Melchert, _Sprache_ 29, 1983, 25, argues convincingly that '... the function of derivatives in _*-mno-_ was not restricted to use as middle participles. Like other participial suffixes, _*-mno-_ originally formed verbal adjectives, with the general meaning of 'possessing, provided with' the notion expressed by the verb. From this the more specialized meanings developed: e.g., Lat. _alumnus_ 'possessing nourishment' led to both 'nourishing, fostering' and 'being nourished, fostered.' Derivation of this _*-mno-_ from verbal nouns in _*-men-_ seems unavoidable.'

The origin of Indo-Iranian _-āna-_ in athematic verbs (Vedic _duhāná-_ < √_duh-_ 'milk' and similar forms) remains unknown, cf. Szemerényi, _Einführung_, 349f. (with references). If the middle participle suffix was in fact _*-o-m(e/o)no-_, and not _*-o-mH_$_1$_no-_, in thematic verbs, the assumption of a suffix _*-mH_$_1$_no-_ in athematic verbs (_*-mH_$_1$_no-_ > _*-ṃ̄no-_

---

[108] For a different explanation of the Tocharian participle see Melchert, _Sprache_ 29, 1983, 25.

[109] See M. Lejeune, _Manuel de la langue Vénète_, Heidelberg, 1974, 168.

> Indo-Ir. _-āna-_ according to Hirt apud Brugmann, _Grundriss_^{1} II, 143, cf. Klingenschmitt, _Fachtagung_ V, 159f.) remains unjustifiable.

§ **50** Kuryłowicz, _ÉI_, 30 f. and _Apophonie_, p. 339, finds good evidence for an initial 'laryngeal' in the lengthening of the first element of certain compounds in Vedic. Examples: _dvīpá-_ 'island', _nīpá-_ 'situated low; the foot of a mountain', _anūpá-_ 'situated near the water' (< _*dwi-H_2p-_, etc., from _*H_2ep-_ 'water', cf. Skt. _áp_ f. 'water'), _abhī ṣat_ (: _abhy as-_ 'surpass'), _ā́sat_ 'not being' (< _*ṇ́-H_1s-_ to the root _*H_1es-_ 'be', cf. § 29), _ápāc-_ 'situated backwards; western', _pratīc-_ (_pratyac-_) 'turned towards', _anūc-_ (_anvac-_) 'following the direction of another' (< _*enu-H_3k^w-_, to _*H_3ek^w-_ 'eye', Gk. _ósse_, etc.), _ā́yan_ (3 pl. ipf. with the augment, from _i_ 'go', cf. injunctive _yan_) < _*é-H_1y-ent_ (: _*H_1ey-_ 'go'). Kuryłowicz points out that the second element of the type _pratīc-_, i.e. _*-H_3k^we/o-_, is to _*H_3ek^w-_ (> _*ok^w-_) as _*-bhre/o-_ in the type Gk. _dí-phr-os_ 'chariot-board' is to _*bher-_ 'carry'. A further possible example is Old Indic (AV) _apāmārgá-_ 'name of a plant' < _*apa-Hmārj́á-_, derived from _apa-mrj-_ 'wipe off', see Forssman, _Kuryłowicz Memorial Volume_ I, 247-53, and cf. below § 67.

The importance of the Vedic material should not be exaggerated, however, as we find a corresponding lengthening also in cases for which no 'laryngeal' can possibly be assumed, e.g. _ā́deva-/ádeva-_ 'godless'. Consequently, B. Forssman's idea that Vedic _ā́yavasa-_, taken to mean '(Ort) ohne Weide', allegedly from _*ṇ́+*Hyeweso-_, testifies to the original presence of an initial 'laryngeal' in the IE preform underlying Vedic _yáva-_ 'barley' and Hom. Gk. _zeiaí_ 'wheat', is far from conclusive. See further Messing, _SSP_, p. 179, cf. E.P. Hamp, _BSL_ LXVIII, 77 ff. For a discussion of the Indo-Iranian evidence, see Mayrhofer, _ZPSK_ 34, 436 ff., and _Festschrift Neumann_ 187 ff. For a discussion of the Greek material, see F. Bader, Le traitement des hiatus à la jointure des deux membres d'un composé nominal en mycénien, _Minos_ XII, 141 ff.

Kuryłowicz's hypothesis may find support in the equation Hittite _su-hm-_ = Vedic _sū-m-_ posited by Catsanicos, _BSL_ LXXXI, p. 173, on the strength of the compounds Hitt. _su-hmili_ (< _*su-Hm(e)ili-_) 'bien fixé' and Vedic _sū-máya-_ (_*su-Hmeyo-_) 'dont l'ajustement (/la jonction) est bon(ne)'.24[110]

§ 51 In absolute finality the 'laryngeals' undergo exactly the same development as in preconsonantal position, e.g. Lat. *prō* < $*\textit{preH}_3$ (§ 42), Gk. nom. sg. f. *néā* < $*\textit{néweH}_2$, nom. acc. dual *néō* < $*\textit{néweH}_3$ (to $*\textit{newo-}$ 'new'), cf. Kuiper, *Sprache* 7, 19 f.[111]

In some cases the expected vowel lengthening does not occur, cf. Gk. *pró* 'before' (: Skt. *purás* 'in front', *pū́rva-* 'fore, first', Gk. *páros* 'formerly; before, etc.'). Kuiper, *India Antiqua*, p. 210 and note 53, *Sprache* 7, p. 18, explains such forms by assuming that postvocalic 'laryngeals' were regularly lost in pausa without affecting the vowel quality. Kuiper's hypothesis may also account for vocatives of the type Skt. *devi* (: *devī* 'goddess'), *vadhu* (: *vadhū* 'bride'), Gk. *númpha*, OCS *ženo* (: *žena*), etc.[112] Kuiper, *Sprache* 7, 19 f., also points to dual forms (vocatives) like *asura* (RV I, 151, 4), *āditya* (VII, 85, 4), cf. voc. dual *prthivi* (< $*\textit{-iH}$). See also Wackernagel-Debrunner, *Altindische Grammatik* II, p. 54, for these forms.

Remark: Gk. *pró* might reflect an old prevocalic sandhi variant of $*\textit{preH}_3$: according to § 24 f., 33 f., we would expect IE $*\textit{preH}_3$ to lose its $*\textit{-H}_3$ before the initial vowel of a following word. In § 29 above, it has been noted, however, that the parent language according to Benveniste's theory of the IE root, originally had no words beginning with vowels. Consequently, a sandhi combination of the type $*\textit{preH}_3\textit{e}^x\textit{C-}$, which would have given $*\textit{pro e}^x\textit{C-}$ (cf. Gk. *pró*), cannot have arisen until after the word $*\textit{e}^x\textit{C-}$ < $*\textit{HeC-}$ had lost its prevocalic $*\textit{H-}$. The same explanation might account for a reading like *deví etu* (—∪—∪) of RV I, 40, 3 *prá devy ètu* 'the goddess shall come forth' discussed by Kuiper, *India Antiqua*, p. 208, cf. P.T. Roberge, *KZ* 99, p. 62. Chronologically, we would have $*\textit{deywíH}_2\ \textit{H}_1\textit{eytu}$ > $*\ \textit{deywíH Heytu}$ (for the syncretism of the 'laryngeals' into **H*, see § 86) > **deywíH eytu* > Vedic *deví etu*. On the strength of such speculation Lindeman, *NTS* 22, p. 78, argues that the IE 'laryngeals' were lost earlier in prevocalic than in preconsonantal position. Cf. Cowgill, *EvfL*, p. 148.

---

[110] For the Hitt. verb *mitai-* 'fasten with red wool' (< *mita/i-* 'red') which does not belong here see Melchert, *AHPh.*, 50.

[111] For Gk. *ósse* 'the two eyes' and similar aberrant forms, see § 48 above.

[112] For the pragṛhya-quality of the *-ī* of a locative sg. like *vṛkī́*, see Kuiper, *India Antiqua*, p. 209: the original loc. sg. of $*\textit{wḷk}^w\textit{íH}_2$ 'she-wolf' can be reconstructed as $*\textit{wḷk}^w\textit{iH}_2\textit{-i}$, which, after the loss of the intervocalic 'laryngeal' was contracted to $*\textit{wḷk}^w\textit{ī́}$ before a following consonant, but became $*\textit{wḷk}^w\textit{íH}_2\textit{y}$ > $*\textit{wḷk}^w\textit{ī́y}$ before a following vowel. P.T. Roberge, *KZ* 99, 54 ff., interprets the pragṛhya-quality of the Vedic nominal duals in *-ī*, *-ū*, and *-e* 'as a residual laryngeal effect' (p. 63).

§§ 52-54 'Laryngeal' metathesis

§ 52 The material which has led to the assumption of a 'laryngeal' metathesis in Indo-European is not very clear and offers many phonologic and morphologic difficulties.

References: Winter, *EvfL*, p. 192; Mayrhofer, *Sprache* 10, p. 183, note 26; Schindler, *Sprache* 15, 145 f.; Jasanoff, *MSS* 37, p. 105, note 2; R.S.P. Beekes, *KZ* 86, p. 34; Gamkrelidze, *Pratidānam*, 95 f.; Hamp, *KZ* 96, 1982[83], 96; Mayrhofer, *IdgGr*. 1, 175 and n. 324 (with references); L. A. Connolly, Laryngeal metathesis: An Aryan peculiarity?, *The New Sound of Indo-European*, 43ff. (for a justified criticism of Connolly's suggestions see A. Garret, *Lg*. 67, 1991, 792f.). Cf. also § 62 below.

§ 53 According to § 47, Gk. *pûr* 'fire', Arm. *hur*, Umbr. *pir*, OIcel. *fúrr* (m.) may all go back to **puH-r-*, the regular zero grade of a full grade stem **pew-H-r-*. However, Gk. gen. sg. *pŭrós*, Goth. *funins* (gen. sg. of *fon* 'fire') seem to reflect earlier **pu-* < **p(H)u-* which would be the zero grade of a full grade stem (theme II) **pHew-* ~ **peHw-* (theme I) (cf. § 29).

'Fire' is attested in Hittite as nom. acc. sg. *pa-ah-hu-ur, pa-ah-hur*, gen. sg. *pa-ah-hu-e-na-as*, dat.-loc. sg. *pa-ah-hu-e-ni*. E. Neu (personal communication) informs me that *pa-ah-hu-wa-ar* 'entstammt KUB VII 60 II 11 — einer jungen Niederschrift'. These Hittite forms seem to presuppose a stem *peH_2w-* (or *peH_3w-*) in which Cowgill, *EvfL*, p. 159, sees a metathesis of the cluster **-wH-* (seen in OHG *fuir*, Gk. *pûr*, etc.) > *-hhw-*. Cf. also Hammerich, *Laryngeal before Sonant*, 35 ff. The Luwian form is *pa-a-hu-u-ur* (Laroche, *DLL*, p. 77).

It is not easy to reconstruct the original shape of the word for 'fire'. According to the phonologic rules of Indo-European, one would expect the nom. acc. sg. */péH_2wr/ to have been realized phonetically as *[*páH_2wr̥*]. Schindler, *BSL* 70, p. 10, thinks that the latter form is continued in Hitt. *pahhur*; for postconsonantal *-wr̥* > *-ur* in Hittite, cf. Melchert, *StHHPh*, p. 52, *AHPh.*, 180.

Remark: An alternative explanation would be to interpret Hitt. *pahhur* as representing earlier *[*pá*H_2*ur*] with [*-u-*] taken over from the oblique cases (e.g. gen. sg. *[*p(a)*H_2*un-és*] = */p(e)H_2wn-és/), i.e schematically:

	old paradigm	**new paradigm**
sg. nom.	acc. **pá*H_2*wr̥*	**pá*H_2*ur*
	gen. **p(a)*H_2*un-és*	**p(a)*H_2*un-és*
	dat. **p(a)*H_2*un-éy*	**p(a)*H_2*un-éy*

A preform of the shape **pá*H_2*ur* might likewise account for Toch. A *por* < earlier **paur*. However, the fact that the *old* oblique stem seems to be *pahhwen-* in Hittite represents an obvious difficulty for the suggested analysis of *pahhur*.

As we have seen, the Hittite and Tocharian (A) forms of the word meaning 'fire' presuppose an IE stem **pe*H_2*w-* (or **pe*H_3*w-*). The relationship between the stem **pe*H_2*w-* seen in Hitt. *pahhur* and the zero grade stem **pu*H_2*-* > **pū-* attested by Gk. *pûr*, etc., corresponds structurally to that between **se*H_2*w-* (in Gk. **hāwélios* 'sun') and the zero grade **su*H_2*-* > **sū-* found in Skt. gen. sg. *sū́ras*.[113]

Since the expected outcome of the regular zero grade of the stem **pe*H_2*w-* would be **p*H_2*u-* > **pŭ-* in non-Anatolian IE (cf. Gk. *purós*, etc.), one might explain the **pu*H_2*-* > **pū-* found in Gk. *pûr*, etc. by assuming a metathesis of *H_2 and *-*w*-, i.e. **p*H_2*u-* → **pu*H_2*-*. According to Winter, *EvfL*, p. 192, the regular sequence **Hw* (**Hy*) was metathesized to **wH* (**yH*): 'Metathesis occurred only when no vowel preceded the laryngeal, when the laryngeal did not stand in initial position ..., and when the semivowel was at least originally followed by a consonant ...' However, Winter's rule does not account for the short _u_ of Gk. _purós_, OIcel. _fune_ 'fire', Goth. gen. sg. _funins_. Kuryłowicz, _Apophonie_, § 13, p. 125, takes the *_pŭ-_ of Gk. _purós_, etc. to represent the zero grade of the theme II *pH_2ew-; according to his view, the theme I *peH_2w- becomes regularly *$p(H_2)\bar{u}$- in the zero grade (before a following consonant).

---

[113] For IE 'sun', see E.P. Hamp, *BBCS* 26 (1975), 97 ff.; R.S.P. Beekes, *MSS* 43 (1984), 5 ff.; E. Pirart, *MSS* 47 (1986), p. 190, does not explain how his IE reconstruction **seəu-əl-iəo-* can account for Gk. **hāwélios* which has a long **ā* in its first syllable (**se*H_2*uHl-* would probably have given **saü̆l-* or the like). The same objection can be raised against the reconstruction proposed by Huld, *KZ* 99, 194 f. For Lat. *sōl* see now Bader, Autour de lat. *sōl*, *Linguistica Baltica* 4, 1995, 265 ff. Lindeman, *BSL* LXXXI, 1986, 370, n. 5, thinks that the primitive morphologic structure of 'sun' may have been similar to that of 'tree' in IE, i.e. nom.acc. sg. **sá*H_2*u* (= Vedic *dā́ru* < **dóru*) : gen. sg. **s*H_2*wén-s* (= Vedic *drú-ṇ-ah*). For the *-*a*- in **sá*H_2*u* which corresponds to the **o* in **dóru*, see § 40 a.

We have seen that Toch. A _por_ may come from older *_paur_ < *$p\acute{a}H_2ur$ (= Hitt. _pahhur_?). Toch. B _puwar_, however, presupposes Proto-Toch. *_puwār_ which may represent */pw$\mathrm{H_2}$er/ (with 'laryngeal' metathesis) = phonetically *[puH_2ar], cf. the type seen in Vedic _ū́dhar_ < IE *_ū́dher_ (Meillet, _Introduction_, p. 266). For Toch. B _puwar_ and similar forms, see Lindeman, _KZ_ 100, 301f.

§ 54 On the strength of Myc. _re-wo-to-ro-ko-wo_ (= _lewotrokhowoi_) 'bath-pourers', _re-wo-te-re-jo_ (= _lewotreios_) 'for bathing',[114] Cowgill, _EvfL_, p. 159, reconstructs the IE verbal stem meaning 'wash' as *$lewH_3$- (cf. Ruipérez, _Emerita_ 38, 386 ff., and _Études Mycéniennes_, p. 107, n. 3). Homeric _loetrón_ 'bath, bathing-place', aor. inf. _loéssai_, etc. testify to a Greek metathesis of _lewo-_ > _lowe-_. Cowgill thinks that the etymologically related Hittite verb _lahhuwai-_ 'pour' shows a metathesis of *_w_ and *H_3 (> _-hh-_).

Lindeman, _Tilegnet Carl Hj. Borgstrøm_, 83 ff., however, argues that the simple root underlying the stem of _lahhuwai-_ survives in the Hitt. imperative 2 sg. _la-a-ah_, and in the 1 sg. preterite _la-a-hu-un_. If this be accepted, it follows that _lahhuwai-_ must be analysed as root _lah_(_h_)- plus enlargement *_-w-_. Similarly Jasanoff, _HethIdg._, p. 88. For a tentative explanation of the Greek stem _lewo-_ see § 87 _Remark_ below.

Remark: For Kuiper's suggestion (_Sprache_ 7, 23) that the long vowel of Skt. _ápratīta-_, _párīta-_, _párīti-_ may be explained by assuming a 'laryngeal' metathesis in prehistoric Indic, see § 102 below. For further speculation on 'laryngeal' metathesis in IE see Hammerich, _Lingua_ 22, p. 203, who discusses Gk. _agathós_ vs. Gmc. *_gōda-_ (in Germ.

---

[114] See Ventris and Chadwick, _Documents in Mycenaean Greek_, pp. 160 and 338, and Chadwick and Baumbach, _Glotta_ XLI, p. 219.

gut, Eng. *good*, etc.). Cf. also H.B. Rosén, Athlon. *Satura Grammatica in Honorem F.R. Adrados* I (1984), p. 436.

§§ 55-59 Assimilation of a 'laryngeal' and **y* or **w*

§ 55 A presyllabic 'laryngeal' in the position after a resonant disappears in the IE languages outside Anatolian (cf. § 37). Similarly, the loss of a 'laryngeal' in the sequence *-$e^{x}HR$- resulted in a compensatory lengthening of the short vowel (*e^{x}), cf. § 38. In some cases, however, intervocalic sequences of the type *-*yH*-, *-*Hy*-, and *-*wH*-, *-*Hw*- seem to have become geminate *-*yy*- and *-*ww*-, respectively. In § 95 below, we have tentatively defined some of the IE 'laryngeals' as dorso-palatal fricatives. If this be accepted, the change of *-*yH*- (*-*Hy*-) to geminate *-*yy*- in some cases could be understood phonetically as the result of an assimilation of a dorso-palatal fricative of the type (voiceless) **x*' (or voiced *γ') and the palatal approximant **y* (= semi-vowel). The conditions under which the supposed assimilation took place remain unknown.[115]

A close phonetic parallel to the postulated change of intervocalic IE *-*Hy*- > *-*yy*- can be found in Breton. According to K. Jackson, *HPhB*, 417f., intervocalic Prim. Bret. *-*xj*- (where *x* = a voiceless velar spirant) normally developed as follows: -*xj*- > (palatalised) -*x'j*- > (voiced) -*γ'j*- > -*jj*-, e.g. Prim. Bret. **clo̤xjωr*, plural of **clox* 'bell', > Early Mod. Bret. *cleyer*, Mod. Bret. *kleier* (-*i*- < -*jj*-), Prim. Bret. **sẹxjωr*, plural of **sax* 'sack' > Mod. Bret. *seier*. See Jackson, ibid. 418, for further examples and variant forms.

§ 56 Examples: The IE preform of the Skt. optative *dheyā́m* (: *dhā*-) = Gk. *theíēn* may be reconstructed as **dheyyḗm* < earlier *dheH_1yéH_1-. If this be accepted, it follows that the assimilation of *-H_1y- > *-*yy*- must have taken place before the rise of the quantitative ablaut. The maintenance of the full grade of the root in a morphologic formation normally characterized by zero grade (cf. Lat. *s-ie-d* : indic. *est*) might be accounted for by assuming that it was the geminate _*-yy-_ itself which prevented the further reduction of _*e_ to _zero_ in _*dheyyéH$_1$-_. A corresponding optative is _*g'noH$_1$-yéH$_1$-_ (from the root _*g'ne/oH$_1$-_ 'know' seen in Hitt. _ga-ni-es-zi_, OE _cnāwan_, etc., § 44) > _*g'noyyéH$_1$-_ underlying Skt. _jñeyā́s_ = Gk. _gnoíēs_; cf. also Skt. _stheyā́m_ (: _sthā-_) = Gk. _staíēn_. Similarly Ruijgh, _Études sur la grammaire et le vocabulaire du grec mycénien_, Amsterdam, 1967, p. 64.[116]

---

[115] Cf. the (speculative) discussion by Lindeman, *NTS* 23, 35 f.

An important example is _*dwoy-Hows_, an old dual form with a 'laryngeal' in the gen. loc. ending attested by Goth. (gen.) _twaddje_, OIcel. _tveggja_, OHG _zweiio_, see Lindeman, _NTS_ 26 (1972), p. 231, and cf. Hoffmann, _Aufsätze zur Indoiranistik_ II, p. 561, Anm. 2. In the gen. loc. dual of _i-_, _u-_, and _r̥-_ stems the metre in the Rigveda mostly requires a disyllabic pronunciation of what is written _-yos_, _-vos_, and _-ros_, see Wackernagel, _Ai.Gramm._II, p. 56. A pronunciation (gen. loc.) _hários_ (: _hári-_ 'reddish brown') may be explained by assuming that a 'laryngeal' has been lost in the underlying form, i.e. _*g'heli-Hows_ > _*g'heli-ows_ (cf. § 33).[117]

§ 57 Further examples. The _*-ayyo-_ attested by the suffix Skt. _-éya-_, Gk. _-aîos_, Osc.-Umbr. _-ai(i)o-_ may have originated in root nouns of the type _*CeH$_2$-_, e.g. _*sm̥-bhéH$_2$-_ (> Skt. _sabhā-_ 'colloquium'), to the root _*bheH$_2$-_ 'speak' (Gk. Dor. _phāmí_, Lat. _fārī_, OCS _bajǫ_) + suffix _*-yo-_, i.e. *_sm̥bhéH_$_2$_yo-_ > *_sm̥bháyyo-_, Vedic _sabhéya-_ 'fit for an assembly'. The original type *_sm̥bhā-_: *_sm̥bháyyo-_ has furnished the model for the analogical creation of adjectives in _-ayyo-_ to derivative _ā_-stems, see Lindeman, _Verschärfung_, 43 ff.

---

[116] For a different explanation of Vedic _dheyā́m_, etc., see J.H. Jasanoff, _MSS_ 52, 1991, 101ff., who starts from Late PIE 1. 2. plural forms such as _*dhéH$_1$-iH$_1$-me_, _*dhéH$_1$-iH$_1$-te_ (> pre-Sanskrit _*dhá-ī-ma_, _*dhá-ī-ta_) the full grade root (_*dhéH$_1$-_) of which is said to have been taken over from the 1. 2. plural indicative forms _*dhéH$_1$-me_, _*dhéH$_1$-te_: to explain the shape of the latter forms, Jasanoff assumes what he calls '_an inner-PIE analogical substitution_' of radical full grade for radical zero grade (_*dhH$_1$-_), see p. 106). The present writer fails to understand the justification for Jasanoff's explanations by analogy, however.

[117] It should be noted that _deyā́m_ (RV. VIII, 1, 5) and _dheyā́m_ (V, 64, 4; X, 52, 5) must be pronounced as trisyllables. Grassmann (_Wörterbuch zum Rigveda_) reads _dhaiām_, etc., whereas Cowgill, _Lg_. 39, p. 270, restitutes _dheyaam_, etc. A reading _dheyaam_ might in effect reflect earlier _*dhayyáäm_ with a hiatus _aä_ due to the loss of the presyllabic 'laryngeal' of the optative suffix, i.e. _*dheyyéH$_1$m̥#_, cf. Vedic _váäta-_ 'wind' (~ _vāta-_), possibly from _*wén̥to-_ < older _*H$_2$wéH$_1$n̥to-_, see § 67 below. Otherwise Hoffmann, _Pratidānam_, 3 ff.

We find the same phonetic development in more isolated formations such as Gk. _gloiós_ 'gum' and OE _clǣg_ 'clay' < Gmc. *_klajja-_ < IE *_gloyyó-_ < earlier *_gloyHó-_ to the verbal stem *_gley-H-_ found in OIr. _glenaid_ 'sticks fast'; OCS _věja_ 'branch', if from *_woyyā_, would correspond to Gmc. *_wajj-_ seen in Goth. _-waddjus_, OIcel. _veggr_: the IE preform would be *_woyH-_, cf. Lat. _viēre_ 'to plait', Lith. _výti_, etc. See _Verschärfung_, § 10, 10.

§ 58 The comparative evidence for a corresponding assimilation of *_-Hw-_, *_-wH-_ to *_-ww-_ is meagre. (The examples quoted by Lindeman, _Verschärfung_, p. 176, are mostly uncertain). However, it cannot be excluded _a priori_ that a geminate *_-ww-_ may in some cases go back to a sequence of a 'laryngeal' and the semi-vowel *_w_, e.g. OIcel. _byggja_ (_byggva_), OHG _houwan_ and similar examples discussed by Lindeman, ibid., § 15. Cf. § 48, _Remark_ above. For a recent discussion of the Germanic 'laryngeal' reflexes see W.P. Lehmann, _Kuryłowicz Memorial Volume_ I, 6ff.

Remark: According to Lindeman, _Verschärfung_, this assimilation of 'laryngeal and *_y_ or *_w_ may have left traces also in other Germanic forms in _-jj-_ and _-ww-_. The Germanic 'Verschärfung' has been much discussed by 'laryngealists', cf. the bibliography cited by Lindeman, ibid., pp. 9-39. R.S.P. Beekes, _Orbis_ 21, 327 ff., maintains that 'laryngeals' have no bearing on the question of the Germanic 'Verschärfung', but he does not enter into a discussion of its origin(s). Kuryłowicz, _Lg._ 43, 445 f., regards _-jj-_ and _-ww-_ as due to a morphologic innovation in Germanic. His views are rejected as unconvincing by Lindeman, _NTS_ 23, 25 ff. Recently, Jasanoff, _MSS_ 37, 77 ff., has proposed a new interpretation of forms like OIcel. _byggja, byggva._ He suggests that a pre-Germanic form *_bheuH_$_2$_-eye-_ gave Gmc. *_beu-ī-_, whence *_beuw-ī-_ with _-w-_ filling out the hiatus caused by the loss of the intervocalic 'laryngeal': 'Subsequently, intervocalic *_-uw-_ could have been reinterpreted as a phonological geminate, and *_beuwī-_ would have assumed the shape *_bewwī-_ (> *_biwwī-_ > OI. _byggvi-_).', cf. ibid., p. 80. It is generally agreed, however, that a resonant or semi-vowel standing after a vowel and before a consonant was consonantal in form in Indo-European (see Edgerton, _Lg._ 19, p. 108, § 63a, A. 4; E. Seebold, _Das System der idg. Halbvokale_, 344 ff.). Consequently, Jasanoff's reconstructed form *_bheuH_$_2$_-eye-_ should be interpreted phonemically as */bhewH-eye-/:

the subsequent loss of the prevocalic 'laryngeal' would produce **bhew-eye-* (unless one accepts the assumption of a much earlier gemination of **w* and the following 'laryngeal'), and there would thus be no basis for introducing a 'euphonic glide' [*-w-*] here.

§ 59 We do not know of any convincing example of a corresponding assimilation of a 'laryngeal' and one of the resonants **r*, **l*, **m* and **n*. Seebold's explanation (*KZ* 80, 273 ff., cf. *PBB* 89, 122 f.) of the *nn* of OIcel. *kann* (and *ann*) is not the only possible one, see Lindeman, *IF* 71, p. 281; cf. also *PBB* 94, p. 433, for the single *n* of Germanic **ana-* 'breathe' (cf. Goth. pret. *uz-on*), which Seebold himself takes to represent IE **anə* (= Skt. *áni-ti* 'breathes') < **H_2énH-*.

R. Lühr, *MSS* 35, p. 37 ff., has attempted to produce more evidence in support of Seebold's hypothesis. However, Lühr's discussion of a passage of **-RH-V-* > **-RR-V-* is restricted to Germanic, and several of the examples that she adduces involve both phonetic and morphologic difficulties that make them seem at best inconclusive, cf. the critical discussion by Lindeman, *Triple representation*, 32 ff. See also Kuryłowicz, *IdgGr.* II, 342 ff.

In *Fachtagung* V, 376 ff., C. Watkins postulates a 'gemination' of *-R-* plus 'laryngeal' to *-RR-* in Hittite: 'der Laryngal geht verloren vor Vokal, mit graphischer Verdoppelung des Sonorlauts.' (p. 376). His results are accepted by Jasanoff, *MSS* 37, p. 88, note 3. Melchert, *StHHPh*, p. 16, n. 33, *AHPh.*, 79 (with further references), teaches that a 'sequence **-VRHV-* in Hittite gives *-VRRV-*, ...' However, the evidence which Watkins produces in support of the suggested change of **-VRHV-* to **-VRRV-* in Hittite is far from convincing, cf. the discussion by Lindeman, *Triple representation*, 35 ff. It should also be stressed that Watkins and those who follow him have been unable to point out the exact phonetic conditions under which **-R + H-* became Hittite *-RR-*: many Hittite words present an unaltered sequence *-Rh-* between vowels, e.g. *arha* 'away, out', *arhai-* 'die Runde machen' (*StBoT* 12, p. 82), *tarh-* 'vanquish' (cf. 1 sg. pret. *tarhun*, etc.), *tarhu(i)-* 'vanquish', *palhi-* 'broad', *parh-* 'drive', iterative *parhesk-*, *sanh(h)-* (1 sg. pret. *sanhun*, etc.), *sarh-* 'überfallen', *sarhuntalli-* 'räuberisch', *walh-* 'strike' (3 pl.

pres. *wa-al-ha-an-zi*, 1 sg. pret. *wa-al-(ah-)hu-un*, etc.).[118] To ascribe the preservation of *-h-* in e.g. *tarhu-* < *térH$_2$u- to analogy (Melchert, *AHPh.*, 80) is simply to ignore the difficulties. Thus, the unverifiable supposition that words like *palhi-* and Luw. *salhi(an)ti-* 'growth' 'still had *-ḷHV- when the assimilation rule *-VRHV- > *-VRRV-* operated ...' (Melchert, *AHPh.*, 55) must, strictly speaking, be considered conjectural: in the view of the present writer, Melchert's attempt at explaining away the difficult *-ll-* of Hitt. *kalless-* 'call' (< *kḷH$_1$-es-, ibid. 80) only demonstrates our actual lack of insight into Anatolian phonology.

On the strength of Arm. *meṙanim* 'die', aor. *meṙay* (cf. Ved. *márati*) and *teṙem* 'skin', aor. *teṙecʿi* (cf. Ved. aor. *ádar*, from √*dṛ-* 'pierce'), B. A. Olsen, *AAL* 10, 1989, 16ff., postulates a 'gemination' of *-r- plus (prevocalic) *-H$_2$- to *-rr- (giving *-ṙ-*) in Armenian. The absence of a corresponding 'gemination' of *-r- plus *-H$_3$- or *-H$_1$- (cf. Arm. *keray*, aor. of *utem* 'eat', to the stem underlying Gk. *bibrṓskō* 'eat') may be explained, according to the author, by assuming that *H$_2$ had 'a stronger articulation than the other laryngeals.' (p. 19). However, as the verbal adjective *mṛ-tó- 'dead' (Ved. *mṛ-tá-*) and forms like Hitt. *mert* (*me-er-ta*) clearly demonstrate, the verbal root meaning 'to die' was simply *mer- without any stem final 'laryngeal' in Indo-European. Consequently, Olsen's hypothesis remains unjustifiable. (Meillet,

---

[118] According to Melchert, *StHHPh*, p. 16, and note 33, IE *H$_2$wélH$_2$-ti 'strikes', 3 pl. *H$_2$wḷH$_2$-énti gave Hittite *walh-zi* (by dissimilatory loss of the first 'laryngeal'), 3 pl. *hullanzi*: 'This very irregular paradigm was then leveled after the singular as *walh-* 'strike', while the form *hulla-* was retained in the secondary meaning 'fight', and a new paradigm created after the model of *zinnizzi-, zinnanzi* 'finish' (note that both stems share the shape *CVRRV-*).' (p. 16). Melchert's interpretation of *walh-* and *hulla-* rests, however, entirely on the preconceived idea that * -VRHV- yields Hittite *-VRRV-* by regular development. However, no conclusive proof has yet been offered that might force us to admit that Hitt. 3 pl. *walhanzi*, 1 sg. pret. *walhhun*, etc. cannot be the regular outcome in this language of earlier *wḷH$_2$-énti, etc. Hence, we are free to regard—with Puhvel, *HED* 3, 367f. (see above § 43)—*walh-* 'strike' and *hulla/i-* 'fight' as representing etymologically unrelated verbal stems; see now also Melchert, *AHPh.*, 83, who, however, takes Hitt. *hulla-* to come from a nasal present of the shape *H$_{2/3}$wḷ-n(e)-H$_1$-. For the supposed change of IE *-H$_1$s-, etc. > Hitt. *-ss-*, see §§ 44, n. 73; 59 a., and cf. the discussion by Lindeman, *Triple representation*, p. 35, note 25, of Hitt. *kuissa* 'every one'.

Esquisse, 54, thinks that *meṙanim* comes from older **meṙnim* (with *-ṙ-* from *-r-* in the position before a following *-n-*) by some sort of anaptyxis.)

§ **59 a**. There are no *sure* examples that could substantiate Melchert's claim (*AHPh.*, 77ff.) that IE */VHsV/ assimilates to PAnat. /VssV/. To some extent, Melchert's own discussion of the relevant linguistic evidence shows this to be true. (Likewise unjustifiable is S. Kimball's claim (*Studies in Memory of Warren Cowgill*, 179) that 'sequences of *$\acute{V}h_1sV$ do show up in Hittite as $\bar{V}ssV$ with a long vowel and following geminate.'). Thus, Melchert, ibid. 77 (cf. 150f.), now thinks it possible that the *-ss-* of the verb *ganess-* 'recognize', the stem of which he takes to reflect IE *$g'n\bar{e}H_3s$-, could be of non-'laryngeal' origin.[119] The etymology of Hitt./Luw. *pas(s)-* 'swallow', frequently taken to come from IE *peH_3-s- (cf. above § 43), remains undecided; see above § 43, n. 38, and cf. Skt. *bhas-* 'devour'. According to Puhvel, *HED* 3, 224, Hitt. *hassa-* 'fireplace, hearth, fire-altar' does not reflect IE **HaHs-*,[120] but simply **Has-*; according to Puhvel, the *-ss-* of *hassa-* is due to graphic gemination. If so, the same explanation might apply also in the case of *pass-* 'swallow'. For Hitt. *hiss(a)-*, *hess(a)-* 'thill, pole' see above § 31.

§ **59 b**. On the strength of Szemerényi's views on the origin of the lengthened grade (Dehnstufe) in Indo-European,[121] A.J. Nussbaum, *Head and Horn in Indo-European*, 125f., 129f., takes the *-ōr* of Gk.

---

[119] For Melchert's earlier view according to which the *-ss-* of *ganess-* comes from *-H_1s-, see above § 44, n. 39.

[120] Melchert, *AHPh.*, 78, reconstructs the IE preform of *hassa-* as *$H_2eH_{1/3}seH_2$-. The non-Anatolian **ās-* attested by Skt. *āsa-* 'ash', OLat. *āsa* 'fire-altar', Oscan (loc. sg.) *aasaí* 'in ara' could be from a lengthened grade *[$H_2\bar{a}s$-] contrasting with normal grade [H_2as-] seen in Toch. AB *ās-* 'dry up' (pres. IV A *asatär*, B *osotär*), see Lindeman, *Linguistica* 33, 1993, 113, n. 1.

[121] See Szemerényi, *Einführung*, 118ff.

húdōr (nom. acc.) and the *-ar* (written *-a-a-ar*) of Hitt. *úidar*[122] (nom. pl. of *watar* 'water') to continue *-*ōr* < IE *-*or*-H_2: taking what he reconstructs as IE **w(e)dor*-H_2*#* to be a neuter collective inflected as a singular, Nussbaum posits the following phonetic development for Proto-Indo-European (before the separation of Anatolian from the IE linguistic community): **w(e)dor*-H_2*#* > **w(e)dorr#* > **w(e)dōr#*.[123]

This hypothesis is questionable for two reasons. Firstly, Szemerényi's unverifiable speculations about the origin of the Dehnstufe being in obvious conflict with formally non-ambiguous material from different IE languages, cannot give any support to the assumption of a corresponding assimilation of a resonant and a final 'laryngeal' (schematically: *-*VR-H#* > *-*VRR#* > *-$\bar{V}$*R#*) in the parent IE language.[124] Secondly, Nussbaum's assimilation hypothesis rests entirely on the preconceived idea that the preform of Gk. *húdōr* (sg.) and Hitt. *ú-i-da-a-ar* (pl.) is to be reconstructed as IE **udor*-H_2. We have no way of knowing that *all* types of consònant stems originally formed a collective/neuter plural with a suffix *-H_2 in the parent language, however: Gk. *húdōr*, Hitt. *ú-i-da-a-ar*, Avest. *vačå* 'words' and similar forms may all reflect a primitive type of formation characterized by simple vr̥ddhi of the stem suffix (see e.g. J. Schmidt, *Pluralbildungen*, 227ff., Burrow, *The Sanskrit Language*, 236f.). In Indo-Iranian such forms were frequently extended by the suffix _-i_, cf. Vedic _nā́māni_ (vs. _nā́mā_), Avest. _nāmə̄ni_ (vs. _nāmąn_).[125]

---

[122] See G.R. Hart, *BSOAS* XLIII, 1980, 13, n. 29, for the spelling *ú-i-da-a-ar* in the plural. Apart from its ultima accent (indicated by the plene writing *-a-a-ar*), this Hitt. plural form, according to Hart, corresponds exactly with Gk. *húdōr*.

[123] The proposed development is exactly parallel to the one proposed by Szemerényi for the nom. sg. of 'sister': **swésor-s#* > **swésorr#* (by assimilation) > IE **swésōr#*, cf. e.g. OIr. *siur*.

[124] See Lindeman, *IF* 78, 1973, 202: 'Dagegen spricht die im Akk. Plur. verschiedener Formen zu beobachtende Entwicklung, vgl. etwa griech. *-ous*, got. *-ans* bei den *o*-Stämmen, griech. (kret.) *-ins* bei den *i*-Stämmen, griech. (kret.) *-uns* bei den *u*-Stämmen. Auch ein Wort wie griech. *heĩs* (< **hens*) spricht gegen diese Erklärung. Wenn nun griech. *phérōn* lautgesetzlich aus **bher-ont-s* hervorgegangen ist, weshalb ist dann der Typus *titheís* (< -*-*ent-s*) anders behandelt worden (man würde nach Szemerényi doch **tithēn* erwarten) ?' To these examples we can add forms like **n̥mens* (gen. sg. of **nomn̥* 'name') in OIr. *anmae*, **déms* (gen. sg. of **dem-* 'house') in Vedic *(pátir) dán* 'master', Gatha Avest. *dəng (paiti-)*, Gk. *des(pótēs)*.

Remark: Endorsing Nussbaum's assimilation hypothesis, Jasanoff, _Ériu_ XL, 1989, 135ff., proposes to see in OIr. (nasalizing) _bé_^{N}—a variant form of _ben_ 'woman'—occurring mainly in poetic and legal language, the outcome of IE _*g_^{w}_ēn_ < _*g_^{w}_en_H_2, by assimilation. This means that an unexplained Old Irish form (_bé_) is made the justification of the reconstruction of an IE form (_*g_^{w}_ēn_), the only vestige of which in the whole of Indo-European is the unexplained Old Irish form in question. See Lindeman, _Proceedings of the Third Symposium of Societas Celtologica Nordica_, 18ff.

§§ 60-65 The 'natural' long diphthongs of Indo-European

§ 60 The 'Laryngeal Theory' has found no generally accepted, convincing solution to the phonologic and morphologic difficulties posed by the so-called 'natural' long diphthongs of Indo-European. The following discussion will concentrate upon some main problems only.

§ 61 On the strength of forms like Skt. pres. _pā́ti_ 'drinks', causative _pāyáyati_, aorist _ápāt_, participle _pītá-_, Lat. _pōtus_ 'draught', etc., and Skt. _dhā́yas-_ (n.) 'strengthening, nourishing', aorist _ádhāt_ 'sucked', part. _dhītá-_, Gk. _thêsthai_ 'suck', etc., W. Schulze, _KZ_ 27, 1885, 420 ff., assumed the existence in the parent language of 'long-diphthong' bases of the type _*pō(i)-_, zero grade _*pī-_, 'drink', _*dhē(i)-_, _*dhī-_ 'suck', etc. The preconsonantal full grade forms _*pō-_, _*dhē-_ (cf. Gk. _pô-ma_ 'drink', _thêlus_) were supposed to have come from earlier _*pōi-_, _*dhēi-_ by a regular loss of the second element of the long diphthongs _*-ōi-_, _*-ēi-_. Schulze's hypothesis soon became a commonly accepted doctrine in Indo-European studies (cf. Brugmann, _Grdr._ I, 1, 203 ff.). It should be stressed that such 'natural' long diphthongs must be distinguished from the lengthened grade diphthongs of the type found in Skt. (_s_-aorist 3 sg.) _ā́raik_ (: pres. _riṇákti_), cf. the discussion by Hirt, _IdgGr._ 2, pp. 51-76.

---

[125] Burrow, op. cit. 236, connects this _-i_ with the _-i_ of neuter plurals of the type _kururi_ 'hostilities' (: sg. _kurur_) in Hittite.

Preconsonantal stem forms like _*dhē-_ pose serious problems for the 'Laryngeal Theory': _*dhēi-_, if posited as _*dheH$_1$i-_ in 'laryngeal' notation, could not have given _*dhē-_ (Skt. aor. _á-dhā-t_). We would expect _*dheH$_1$i-C-_ to have become (disyllabic) _*dheï-C-_ > _*dhei-C-_ in the same way as e.g. _*pleH$_1$istos_ becomes _*pleïstos_ > Gk. _pleîstos_ (§ 33). Cf. Cowgill, _EvfL_, p. 178. Various 'solutions' to this difficulty have been proposed over the years.

§ 62 Kuryłowicz, _ÉI_, 40 f., starting from _*dheH$_1$-_ 'suck', _*peH$_3$-_ 'drink', assumes that a suffix _*y_ was added to these roots at a very early stage of Indo-European (before the rise of the quantitative ablaut), i.e. _*dheH$_1$-_ _*dheH$_1$-y-_, etc.; the suffix in question soon came to be felt as part of the verbal root itself. Thus, the old full grade _*péH$_3$-_ would be reflected in the _pô-_ of Gk. _pô-ma_ 'a drink', whereas the _pî-_ of _pî-thi_ would presuppose the zero grade of the enlarged root _*peH$_3$-y-_. A similar interpretation is proposed by Benveniste, _Origines_, 167 f., who likewise assumes an early alternation in the parent language between root forms with and without enlargements in _*-y_ (and _*-w_).

Kuryłowicz, _Apophonie_, p. 125, explains the long _-ī-_ of Gk. _pî-thi_, etc. by assuming a phonetic reduction of full grade _*peH$_3$i-_ to zero grade _*p(H$_3$)ī-_. This assumption, however, seems to be without any real foundation. Benveniste, _Origines_, 167 f., sees a particular assimilation product in the long _*-ī-_ of Skt. participle _pī-tá-_, etc. (< _*piitó-_ < _*pəitó-_). His _ad hoc_ explanation has found little following, however.

To assume an early alternation between root forms with and without an enlargement in _*y_ in order to account for an inflection of the type seen in Skt. _pā́ti_, causative _pāyáyati_, aorist _ápāt_, part. _pītá-_ is of very little help: no satisfactory explanation has yet been given of the peculiar distribution of the enlarged root form (_*peH$_3$-y-_): why is it that the supposed enlargement (_*y_) is present in this verb precisely in the causative stem and in the verbal adjective and in no other forms in Vedic? As long as this question remains unanswered, Kuryłowicz's and Benveniste's explanations must be treated with the utmost scepticism. For precisely the same reason we find Mayrhofer's treatment of the long diphthongs (in his _IdgGr._ 1, 174 f.) unconvincing. It should also be pointed out that the unwarranted assumption of a 'laryngeal' metathesis in order to justify the long _-ī-_ of Skt. _pī-tá-_, Gk. aor. imperat. _pî-thi_ (i.e.

_*pī-_ < _*piH$_3$-_ < _*pH$_3$i-_) is in obvious conflict with Mayrhofer's own views (ibid., p. 100) regarding the predialectal IE voicing of _*p_ by _*H$_3$_ in Skt. _píbati_, OIr. _ibid_, etc.: it follows from _*pi-pH$_3$-e-ti_ > _*pi-bH$_3$-e-ti_ > _*pi-b-e-ti_ that we must expect the original verbal adjective to have been _*pH$_3$i-tó-_ > _*bH$_3$i-tó-_, whence (by 'laryngeal' metathesis) _*biH$_3$-tó-_ > _*bī-tó-_ (Skt. _*bī-tá-_). See further Lindeman, _NTS_ 22, 1968, p. 100, n. 2, and cf. Polomé, Reflexes of Laryngeals in Indo-Iranian, 233 ff.

§ **63** Diver, _Word_ 15, 110 ff., taking the 'laryngeal' _*H$_1$_ to have been _*H^y_, tries to show that a sequence _*-eH^y-_ developed regularly into _*-ēy-_ before a following vowel, but into _*-ē-_ in preconsonantal position, cf. § 44, _Remark_ above. He uses his hypothesis to account for certain 'long-diphthong' bases of the shape _*-ē(i)-_. Diver finds support for his views in two morphologic categories: (1) On the strength of the vowel lengthening found in formations like Skt. _áśvāyati_ (: _áśva-_), _śatrūyati_ (: _śatru-_), Lat. _albēs_ (: _albeo_), _metūtum_ (: _metuo_), Gk. _philḗsō_, _ephílēsa_ (: _philéō_) etc., he reconstructs the oldest IE form of the denominative suffix _*-ye/o-_ as _*-H^{y}e/o-_. However, the assumption that the non-presential forms (such as Gk. _ephílēsa_) contain the suffix of the present stem is not convincing (see Cowgill, _EvfL_, 178 f.), and the vowel lengthening seen in the Sanskrit forms in question admits of other explanations (see Kuryłowicz, _Apophonie_, p. 126). (2) Diver (ibid., 120 f.) thinks that presents like Skt. _gā́yati_ 'sings' (: _s_-aorist inj. _gāsi_), etc., which have etymological connections in _*-ē-_ in the other IE dialects, ultimately derive from thematic forms of the shape _*géH^y-e-ti_. This assumption, however, would imply that the type in _*-ē(i)-_ must be separated from those in _*-ā(i)-_ and _*-ō(i)-_ which display exactly the same alternations (e.g. Skt. _pā́ti_: _pāyáyati_). Moreover, Diver seems to have overlooked the fact that forms with a preconsonantal diphthong occur frequently in IE dialects outside Indo-Iranian, e.g. Lith. _gaidỹs_ 'cock', Latv. _gaîlis_ 'id.', Lith. _giedóti_ 'to sing' (: Skt. _gā́yati_). Zero grade formations like Skt. _gītá-_ (part. of _gā́yati_) are not discussed by Diver, cf. Lindeman, _NTS_ 22, p. 101.

§ **64** Referring to my previous analysis of the 'long-diphthong' bases in _NTS_ 22, p. 99 ff., I will briefly present here what seems to me now to be a plausible solution to this difficult problem.

Taking Skt. causative _pāyáyati_ and participle _pī-tá-_ to be structurally parallel to Skt. _bhāváyati_ (< _*bhowH-éye-ti_) and _bhū-tá-_ (< _*bhuH-tó-_), we can reconstruct, in the case of the IE verb meaning 'drink', a causative stem _*poyH_$_3$_-éye-ti_ and a participle _*piH_$_3$_-tó-_. We posit the underlying verbal stem as _*péy-H_$_3$_-_ (theme I, cf. § 29). The theme II may be reconstructed as _*py-éH_$_3$_-_. The radical _*y_ of the latter stem was lost by dissimilation at a very early stage of Indo-European (before the rise of the quantitative ablaut) in those cases where the stem was immediately followed by a suffix beginning with _*-y-_ as for example in the optative: _*p(y)eH_$_3$_-yéH_$_1$_-_ > _*peH_$_3$_-yéH_$_1$_-_.[126] Thus, the dissimilatory loss of the _*y_ of _*pyeH_$_3$_-_ gave rise to a variant root form _*peH_$_3$_-_ (full grade), _*pH_$_3$_-_ (zero grade), cf. Skt. aorist _ápāt_, present _píbati_, etc. Similarly, the theme II _*dhy-éH_$_1$ 'suck' (alternating with a theme I _*dhéy-H_$_1$_-_ seen in Skt. _dháyati_ = Gmc. _*dijana-_ OSwed. _dīa_, Norw. _die_ 'suck', etc.)[127] would have undergone the same dissimilation, i.e. (optative) _*dh(y)eH_$_1$_-yéH_$_1$_-_ > _*dheH_$_1$_-yéH_$_1$_-_ giving rise to a variant root form _*dheH_$_1$_-_ (full grade), _*dhH_$_1$_-_ (zero grade), cf. Skt. aorist _ádhāt_, perfect (RV) _dadhúr_. Luwian _titai(m)mi-_ 'suckling, sucking child' = Lyc. _tideimi_ 'son', and Hitt. _tit(t)ai-/tit(t)iya-_ 'give the breast, nurse' seem to belong here, see I. Hoffmann, _KZ_ 98, 206 ff. The IE preform of Anatolian _*tidai-/*tidiya-_ is not clear to me. See Melchert, _AHPh._, 301.

§ **65** As can be seen from the many diverging viewpoints cited above, the origin of the 'long-diphthong' bases remains unexplained. Since a small leak will sink a great ship, 'laryngealists' should pay serious attention to the construction of a new theory of such bases that can replace the one proposed by W. Schulze.

---

[126] According to § 56, _*peH_$_3$_-yéH_$_1$_-_ might be expected to have become _*poyyéH_$_1$_-_ a formation which may survive in the Skt. precative (3 sg.) _peyā́s_, cf. _NTS_ 22, p. 107.

[127] See Lindeman, _NTS_ 22, 72 f. It seems impossible to decide whether we should reconstruct IE _*dhéyH_$_1$_-e-ti_ (cf. Skt. _bhávati_ < _*bhéwH-e-ti_) or _*dhH_$_1$_éy-e-ti_ for the present Skt. _dháyati_ = Gmc. _*dija/i-_ < _*deja/e-_.

§§ 66-70 Prothetic vowels in Greek and Armenian

§ 66 In certain cases Greek and Armenian seem to have preserved a reflex—in the form of a so-called prothetic vowel—of initial 'laryngeals' which have otherwise disappeared in the non-Anatolian IE languages.[128] Cowgill, *EvfL*, p. 151, thinks that this 'feature of maximal vocalization ... strongly suggests that the dialects ancestral to Greek and Armenian were in contact at the time when laryngeals began to develop differently in different parts of the Indo-European speaking territory.' (E.P. Hamp, _Studies Palmer_, p. 91, referring to the great number of features which Armenian shares with Greek, observes 'that the time is approaching when we should speak of Helleno-Armenian.')

---

[128] For a discussion of the development of the IE initial sequences **Hr-V-* and **Hl-V-* in Albanian see B. Demiraj, Bemerkungen zur Entwicklung der anlautenden idg. Laryngale im Albanischen, *In honorem H. Pedersen*, 57-76. According to Demiraj, Alb. initial prevocalic /r-/ goes back to a PAlb. (prevocalic) sequence */Vr-/, the originally unaccented vowel (V) of which was later lost. Since Alb. /r-/ occurs also in cases where the IE preform had an initial 'laryngeal', the possibility cannot be ruled out, according to Demiraj, that an IE initial sequence of the shape */Hr-V-/ gave PAlb. */Vr-V-/ with a 'prothetic' vowel of 'laryngeal' origin. Etymologically, however, most of the adduced Albanian evidence is too obscure to allow sure conclusions to be drawn from it. In my view, of Demiraj's examples the most likely candidate is Alb. *rjep* 'to peel', aor. 1 sg. *ropa* < **Hrep-*, cf. the Hittite cognate *harapp-* (< **Herp-*) the basic sense of which, according to Puhvel, *HED* 3, 182f., is 'take in hand and translocate', cf. Lat. *rapio* 'snatch'. At the present state of our knowledge of Proto-Albanian phonology, however, there is no way of proving (1) that /r-/ in *rjep* and similar cases does in fact presuppose the loss of an earlier initial vowel, and, (2) whether the supposed initial vowel must be of 'laryngeal' origin rather than from another source. B.A. Olsen, *Festschrift Rix*, 364, 368, who rightly repudiates Peters' *ad hoc* reconstruction of a preform **H_3r̥n̥g'-yéló-* for Vedic *irajyáti* 'regulates, directs, leads, etc.', takes the *i-* of *irajyá-* to be a reflex of the 'vocalized' initial **H_3-* of the verb stem **H_3reg'-* (Gk. *orégō* 'stretch out', Lat. *regö* 'direct, etc.'). The Vedic form in question may, however, be a deverbative in *-*yéló-* of a reduplicated athematic present of the (schematical) shape (sg.) **Hi-Hreg'-*, (pl.) **Hi-Hr̥g'-* in which the original long *ī* of the singular stem was shortened to *i* in analogy with the regular short *i* of the plural stem: sg. **Hi-Hrég'-* > **ī-reg'-* > **i-reg'-* (> *iraj-* + *yá-*) after plural **Hi-Hr̥g'-* > **i-r̥g'-*, cf. the parallel development in a perfect of the type *uvāca*, *ūcúr* (< √*vac-* 'speak'): sg. **Hu-Hwok*^{w}*-* > **ū-wok*^{w}*-* > **ŭ-wok*^{w}*-* (> *uvāca*) after plural **Hu-Huk*^{w}*-* > **ŭ-uk*^{w}*-* (> *ūcúr*, by contraction), cf. Benveniste, *Symbolae Kuryłowicz*, 28, for Vedic *uvāca*. Cf. § 40, *Remark* above, for Celtic **ast-* 'bone'. See *Triple representation*, p. 68, for a critical discussion of other Celtic words, e.g. OCorn. *abrans* 'supercilium' (Breton *abrant*) vs. OIr. *bráe, broí* 'eyebrows'; Mid.Ir. *anim* 'blemish', and Mid. Ir. *áirne* 'sloe; kernel'. R.S.P. Beekes' proposed reconstruction (*Laryngaltheorie*, 93) of a preform **$h_1h_1k^wah_2$* for Lat. *aqua* must be rejected as wholly unjustified, see the detailed criticism by Lindeman, *Glotta* LXIX, 1991, 192f.

It should be stressed, however, that it is only in a very limited number of cases that a Greek and Armenian prothetic vowel can be compared to etymologically related forms with a preserved _h-_ in Anatolian. It is likewise a fact that there are prothetic vowels of a non-'laryngeal' origin both in Greek and in Armenian. Some of the prothetic vowels found in these languages may ultimately go back to preverbal elements of the shape _*e_ or _*o_ (comparable to the augment _*e_), e.g. Gk. _e-thélō_ ~ _thélō_ 'wish', _o-kéllō_ ~ _kéllō_ 'run aground, etc.', see Lejeune, _Phonétique historique_, pp. 150, 210 and Kuryłowicz, _Studia Indoeuropejskie_, 111 f., and Mayrhofer, _IdgGr_. 1, p. 126, note 115. The IE preform of the preverb seen in Gk. _o-kéllō_ and in _ózos_ 'branch' can be posited as _*_H_3_e-_ on the strength of the equation Hittite _hasdwer_ 'twigs, branches' = Gk. _ózos_, i.e. _*_H_3_e-sd-_ (zero grade of the root _*sed-_ 'sit'), cf. Sturtevant, _CG_, p. 32, Melchert, _StHHPh_, p. 93, note 34; otherwise Melchert, _AHPh._, 134, see above § 21, n. 10. Cf. § 27 above.

§ **67** Examples: Gk. _á(w)ēsi_ 'blows' < _*_H_2_wé_H_1_-_, cf. Gk. _áella_ 'stormy wind' vs. Hitt. _hu-(u-)wa-an-t-_ 'wind' (to be read _huwant-_ < _*_H_2_u_H_1_ént-_ (?) or _hwant-_, see Melchert, _StHHPh_, p. 28, n. 59, and _AHPh._, 54).[129] The initial 'laryngeal' has been lost in Skt. _vā́ti_ 'blows', OCS _vějati_, Goth. _waian_, Lat. _uentus_, etc.; note also the lack of lengthening of the _a-_ of Vedic _avātá-_ 'windless', and cf. Mayrhofer, _Festschrift Neumann_, p. 188.

Kuryłowicz, _ÉI_, pp. 35 and 74, thinks that Vedic _vāta-_ 'wind', which, like Avest. _vāta-_, must sometimes be read metrically as _vaata-_, reflects earlier _*waäta-_ (with hiatus) < _*weṇto-_ < _*_H_2_we_H_1_ṇto-_: the hiatus _*-eṇ-_ has been removed, however, in the preform of Lat. _uentus_, Goth. _winds_, etc., i.e. _*weṇto-_ > _*wento-_.[130] See also above § 33.

---

[129] It is doubtful whether Hitt. _huwai-_ 'run' belongs here. Laroche, _Revue de Philologie_ XLII, fasc. 2 (1968), 245 f, connects Hitt. _hway-/hwi-_ 'courir' with Gk. _híemai_, Skt. _véti_ (see also Couvreur, _Heth H_, p. 119; Catsanicos, _BSL_ LXXXI, p. 162, and note 238.). The Luw. form is _hu-u-i-ya-_ 'courir, fuir' (Laroche, _DLL_, p. 46). For these forms, see now also Melchert, _StHHPh_, p. 16, note 31.

Gk. _a_(_w_)_éskei_, aorist _áesa_ 'spend the night' < _*H_2wes-_ vs. Hitt. _hu-i-is-zi_ 'lives', _hu-u-e-su, hu-i-su_ 'alive' (probably to be read _hwesu_). The initial 'laryngeal' has been lost in Skt. _vásati_, Goth. _wisan_, Arm. _gom_. (Cf. also § 82, _Remark_ below, for Arm. _gom_ 'I am'). Another possible example is Gk. Hom. _-áednos_ in _an-áednos_ 'without bridal gifts' < _*awed-_ vs. Hitt. _huett_(_iya-_) 'pull' if this represents _*H_2wedH_2-_ (with _*d_ + _*H_2_ > _tt_, see below § 77, with references).

Whether the initial vowel of Gk. _astḗr_ and Arm. _astł_ 'star' admits of the same explanation seems somewhat doubtful: Watkins, _Sprache_ 20, p. 13, thinks that 'star' was of the type seen in Vedic _pánthāh, patháh_, Avest. _pantå, paϑō_ (cf. § 73), and reconstructs the nominative sg. as _*H_2ostēr_ > Hitt. _ha-as-te-er-za_ (in which he sees a secondary sigmatic nominative, cf. _haras_ 'eagle', nom. sg. of the _n_-stem _haran-_, cf. OHG _aro_, etc.).[131] However, since _ast-_ in _astḗr_ is to _st-_ in Goth. _stairno_, Vedic _stár-_, etc. as _aw-_ in Gk. _á_(_w_)_ēsi_ < _*awē-ti_ 'blows' is to _w-_ in Skt. _vā́-ti_ blows < _*HwéH-ti_, it is tempting to posit _*Hster-_ as the primitive form; Hittite _ha-as-te-er-za_ would then be a writing for [_hster_(_-s_)] with a non-vocalized initial 'laryngeal'. If 'star' was of the type Vedic (nom. sg.) _pánthāh_ : gen. sg. _patháh_, its nominative sg. ought to have had root accent; the accent of Gk. _astḗr_ gives no support to Watkins' hypothesis.[132]

The fact that we find _*a-_ in Greek in the rare cases where a Greek prothetic vowel can be compared to etymologically related forms with a maintained _h-_ in the Anatolian languages is in full agreement with the conclusions set forth below (§ 86) concerning the development of interconsonantal *H in Greek. See also Kuryłowicz, *VJA*, 1971, 3, p. 123.

---

[130] Melchert, _StHHPh_, p. 33, note 70, observes that Hitt. _hu_(_u_)_want-_, read as _hwant-_, might be from _*H_2wéH_1ṇt-_. (Otherwise Porzig, _Gliederung des idg Sprachgebiets_, 197 f., who sees a contamination of _*wḗ̆nts_ (Hitt. _hwants_) and _*wētos_ (Skt. _vāta-_ 'wind') in _*wḗ̆ntos_ (Lat. _uentus_, etc.).)

[131] Otherwise Friedrich, _Athenaeum_ XLVII, p. 118, who posits _*hasters_ (like Gk. _hal-s_ 'salt') with _-rs_ > [_-rts_] (written _-r-za_), cf. Laroche, _RHA_ 28, p. 74.

[132] For Hamp's analysis of 'star' (_PICL_ 11, 1050 f., see Lindeman, _Triple representation_, p. 58. For 'star', see now also Mayrhofer, _IdgGr_. 1, p. 135, and note 154 (with further references). Eichner, _Sprache_ 24, p. 161, note 76, regards _*H_2s-tḗr_ as a nomen agentis to a root _*H_2es-_ 'burn, glow' (which he finds in Hitt. _hassa-_ 'hearth', Lat. _āra_, etc.). The same etymology is proposed by A.R. Bomhard, _JIES_ 14, 191 f.

In other cases Anatolian offers no corroborative evidence for the assumption of a 'laryngeal' origin of a Greek or Armenian prothetic vowel, e.g. Gk. *a(w)éksō* < *H_2weks- vs. *auksánō*, Lat. *augēre*, Goth. *aukan*, etc. < *H_2ewg-; Gk. *anḗr*, Arm. *ayr* 'man' < *Hner-*, cf. the vowel lengthening seen in the first element of the compounds Skt. *sū-nára-* 'bountiful', Gath. Avest. *kamnā-nar-* 'wenig Männer, Leute besitzend' (according to § 50, < *su-Hner-*, etc.). For the Phryg. *anar* 'man', see R. Ködderitzsch, *Linguistique Balkanique* 28, 1985, p. 4. Hittite *innara* 'willfully, purposely', *innarawant-* 'strong, vigorous', and Luwian *annarummi-* 'strong, forceful' may belong here, see Puhvel, *HED*, p. 373, who postulates (with Laroche, *RHA* 23, p. 42) a Proto-Anatolian neuter noun *enar* 'strength' < IE *H_1énr̥. Puhvel thinks that 'the "man" words are accentually polarized animate nominative counterparts to those neuters.' The orig. (animate) *H_1nḗr 'man' gives *Hnḗr* (whence the Greek and Armenian forms) after the syncretism of the 'laryngeals' under one colour (§ 86).

Vedic 1 sg. middle aorist *nám̥śi*, perfect 3 sg. *ānám̥śa*, pl. *ānaśúr* (: pres. *náśati, aśnóti* 'attains'), OIr. suffixless preterite stem *-ānec-* (: pres. *-icc*, e.g. in *r-icc* 'reaches', cf. § 46) all seem to be from a verbal stem *Hnenk'-*, an allomorph (with double nasal) of the *Hnek'-* seen in Vedic 3 sg. root aorist *ā́naṭ* (< *é-Hnek'-t*, according to § 50), Gk. *diēnekḗs* 'continuous',[133] OCS *nesti*, Lith. *nèšti* 'carry' (cf. Cowgill, *EvfL*, p. 151, and note 17, Anttila, *Schwebeablaut*, p. 125). The initial 'laryngeal' of *Hnenk'-* is shown not to have been *H_1 by the OIr. pret. stem *-ānec-* < Insular Celtic *ānank-* = Vedic zero grade perfect stem *ānaś-(úr)*, cf. § 46. The *ā-* of *ānank-* presupposes IE *ā* or *ō*. The underlying reduplicated zero grade perfect stem can be reconstructed as *He-Hn̥k'-*.

---

[133] For the variant form *diānekḗs*, see Chantraine, *DELG*, 282: 'La forme en *a* long vise, l'étymologie étant perdue de vue, à mettre en accent le préverbe *dia-*.' F. Bader. *Minos* 12, p. 149, thinks that this compound 'pourrait être un *dia-ənek-*, s'il était très archaïque, ce qui est indémontrable.'

If the Gk. aorist *enegkeîn* 'bring' goes back to the same stem **Hnenk'*-, its initial *e*- cannot, of course, be regarded as a phonetic reflex of a vocalized *H_1-.[134] However, if we are right in assuming that IE **Hster*- 'star', attested by Hitt. *ha-as-te-er-za* [*hster*(-*s*)], has given Gk. *astḗr*, we would expect the IE stem **Hnenk'*- to have become Gk. **anegk*- (with a vocalized 'laryngeal' giving Gk. *a*, see also §§ 86, 88 below); the latter form seems to have given *enegk*- by assimilation (cf. Cowgill, *EvfL*, p. 154).

Scholars who believe that the triple representation of Schwa in Greek is a phonetic archaism (§ 87) take the *e*- of a form like Myc. *e-e-si* = [*ehensi*] 'they are' to be the regular reflex of a vocalized initial *H_1-, i.e. IE *H_1*s-énti* > Gk. *eh-ensi* (vs. Skt. *sánti*, Umbr. *sent*, Goth. *sind*, OIr. *it*, etc., with loss of the initial 'laryngeal'). The *a*- found in the corresponding 3 pl. Hittite *a-sa-an-zi* (: 3 sg. *es-zi* 'is') is likewise regarded as the phonetic outcome of the vocalized initial *H_1- of *H_1*s-énti* (cf. Mayrhofer, *IdgGr.* 1, 124 f., with references, and E.P. Hamp, *MSS* 37, 59 f.). Similarly, Gk. *eús* 'good', *eû* 'well', and Hitt. *assu* 'good' are taken to be from *H_1*su*- (vs. Vedic *sú* 'good', OIr. *so-*, *su-* 'good'). Other scholars, however, posit a full grade *H_1*esu*- for Gk. *eús* (e.g. M. Peters, *Untersuchungen*, p. 42, with references); see also Chantraine, *DELG*, 388: 'Il n'est pourtant pas impossible, en définitive, que i.-e. **esu*- et **wesu*- se soient confondus en grec.' IE **wesu*- (Skt. *vásu*- 'good') may at an early stage have become **esu*- by dissimilation (**w...u* > **Ø...u*).[135] Catsanicos, *BSL* 79, fasc. 2, p. 150, takes Hitt. *a-as-su* (subst. neuter 'bien') to come from *H_1*ósu* the *o*-vocalism of which would be parallel to that of $^{\text{GIŠ}}$*taru* (neuter) 'bois', Gk. *dóru*.

A possible explanation of the prothetic *o*- of Gk. *orégō* 'stretch out' may be sought along the following lines. Assuming with Szemerényi, *Syncope*, 230, that Gk. *órguia* 'a fathom' goes back ultimately to an old dual form (meaning '(the) two outstretched (sc. hands)') of the perfect participle of _orégō_, Lindeman, _Glotta_ LXVIII, 1990, 168ff., reconstructs the regular reduplicated perfect of IE _*H$_3$reg'_- as (sg.) _*H$_3$e-H$_3$róg'_-, (pl.) _*H$_3$e-H$_3$r̥g'_-. After the loss of the prevocalic 'laryngeals' these forms would have given (sg.) _*ōrog'_-, (pl.) _*or̥g'_- in non-Anatolian Indo-European. In the IE dialect ancestral to Greek, pl. _*or̥g'_- would have given _*org'_-, by removal of the hiatus [_or̥_] (cf. above §§ 33ff.). In exactly the same way as the inherited perfect (sg.) _*ēlowdh_- < IE _*H$_1$e-H$_1$lowdh_- was refashioned in Greek to _elēlouth_-,[136] the supposed perfect (sg.) _*ōrog'_- < IE _*H$_3$e-H$_3$róg'_- would have been remodelled in Greek into _*orōrog_-. The corresponding weak stem _orōreg_-, found in Hom. mediopassive _orōrékhatai_ 'are stretched out' Il. 16, 834, _orōrékhato_ Il. 11, 26, may have been created according to the following analogical proportion:

---

[134] R.S.P. Beekes, *MSS* 38, 18 f., holds that *enegkeîn* must be separated from Vedic *náṃśi*, etc. for semantic and formal reasons. He posits an initial *H_1- in the preform of the Gk. verb. Cf. also G. Schmidt, *Orbis* 26, p. 113.

[135] Should A. Lubotsky, *Kadmos* XXVII, 1, 1988, 20, be right in identifying the *ev*- occurring in Old Phrygian feminine nouns with Gk. *eû* 'well', we may take this *ev*- to likewise reflect an IE full grade form.

perf. sg. _*ēlowdh_- > _elēlouth_- : pl. _ēludh_- > _elēluth_-[137]
= perf. sg. _*ōrog_- > _*orōrog_- : pl. _x_; _x_ = _ōreg_-

(cf. _ōregmai_ Hp.) > _orōreg_- (cf. _orōrékhatai_, etc.): the stem form _ōreg_- which ousted the earlier _*org_-[138] surviving in _órguia_ 'a fathom', contains the same (preconsonantal) zero grade as Hom. _orek-tós_ (Il. 2, 543), cf. parallel forms such as Goth. _raihts_ 'straight, right', Avest. _rašta_- (ptc. of _raz_- 'set in line').

Formally, the postulated singular form _*ōrog_- could be analysed in one way only, i.e. as the regular ablauting perfect singular (with lengthened initial vowel) of a verb stem _oreg_-, cf. the attested pres. _orégō_, fut. _oréksō_, aor. _ṓreksa_, etc. It will be assumed here that it is this abstracted stem _oreg_- which ousted the inherited (unaugmented) stem _*areg_- (< IE _*H$_3$reg'_-) from the language. The IE stem _*H$_3$reg'_- 'stretch out' has left a trace also in Hitt. _harganau_- 'palm' or 'sole' (< zero grade _*H$_3$r̥g'_-), see Puhvel, _HED_ 3, 168f., with further references. Citing

---

[136] See Szemerényi, _Einführung_, 314, for this refashioning.

[137] See Szemerényi, _Syncope_, 22, for the plural forms of this perfect in Greek.

[138] This stem form _*org_- was probably felt to come from older _*ōrg_-, by shortening (according to Osthoff's Law).

Vedic _r̥ju-hásta-_ 'having the arm outstretched', Ch. de Lamberterie, _Sprache_ 35, 1991-1993, 128ff., takes _órguia_ 'a fathom' to represent the dual of a syntagm _*orguià kheír_ 'outstretched arm'. This is possible only by assuming that IE _*H_3r̥g'ú-_ (= Vedic _r̥jú-_) gave Gk. _*orgú-_ according to 'lex Rix'. However, if—as argued in § 31 a. above—'lex Rix' is phonologically unjustifiable, de Lamberterie's explanation of _órguia_ remains equally unfounded.

The Greek stem form _omorg-_ in pres. _omórgnūmi_ 'wipe', aor. _omórksai_, perf. (Att.) _ṓmorgmai_ admits of an explanation similar to that given for _orégō_. The underlying verb stem _*H_3merg'-_, which, according to Benveniste's theory of the IE root, must be considered a theme II _*H_3m-ér-_ + élargissement _*-g'-_, would have formed a regular perfect (sg.) _*H_3e-H_3mórg'-_, (pl.) _*H_3e-H_3mr̥g'-_. The weak stem _*H_3e-H_3mr̥g'-_ may have given Gk. _ōmorg-_ if we admit with Chantraine, _DELG_, 799, a development of _*r̥_ into Gk. _or_ here: from _ōmorg-_, analysed as a regular perfect with lengthened initial vowel, would have been abstracted a verb stem _omorg-_ (replacing _*amorg-_, with inherited prothetic _a-_ of 'laryngeal' origin). For Old Indic (AV) _apāmārgá-_ 'name of a plant' which may belong here (< _*apa-Hmārj́á-_), see above § 50.

Forms like Gk. _ehensi_ 'they are' and Hitt. _asanzi_ pose serious phonological problems. As Kuryłowicz has shown (_BSL_ LXXII, p. 72 and _Problèmes_, 187 f.), it seems possible that the prothetic vowel in Greek—_whatever its origin_—tended to adopt the timbre of a collateral full grade form. Thus, the prothetic vowel ([_a-_], cf. _astḗr_, and see § 86) which possibly[139] arose from a vocalization of the initial 'laryngeal' in the present indic. plural of _*H_1és-ti_ 'is' in Greek, i.e. in the forms _*H_1s-mén_, _*H_1s-té_, _*H_1s-énti_ (cf. Skt. _s-máḥ, s-thá, s-ánti_), may have become

---

[139] Catsanicos, _BSL_ LXXXI, p. 172, note 287, may well be right in thinking that an IE sequence _*#H_1s-V-_ gave Gk. _*#sV-_, and that the _e_-vocalism of the singular has been substituted for zero in Myc. _ehensi_ (cf. ibid., p. 172, note 290, with further references). Plausible examples are West Greek _enti_ for orig. _*henti_ = Skt. _santi_, and _hu-_ in _hu-giḗs_ 'healthy' < IE _*#H_1su-_ = Vedic _sú-_. Gk. _steropḗ_ 'lightning', which, according to Mayrhofer, _IdgGr._ 1, 125 (with references), shows regular loss of an initial _*H_2_ in an end-stressed compound (vs. _astḗr_ < _*H_2ster-_), remains formally unclear, see the discussion by Beekes, _MSS_ 48, 1987, 15ff., who holds with those who consider the word non-Indo-European.

_e-_ under the influence of the _e_ of the corresponding full grade stem *_és-_ < *_H_1és-ti_, etc.[140]

Similarly, if 'tooth' (Skt. _dánt-_, Lat. _dens_, OHG _zand_, OIr. _dét_, etc.) ultimately goes back to an old participle of *_H_1ed-_ 'eat' (Hitt. 1 sg. pres. _edmi_),[141] i.e. to *_H_1d-é/ónt-_, *_H_1d-n̥t-_, the prothetic vowel which arose from a vocalization of the initial 'laryngeal' in Greek, may have adopted the timbre *_e_ of the collateral full grade *_éd-_ (seen in Hom. inf. _édmenai_, cf. pres. _édō_). The resulting *_edont-_ (for *_adont-_, cf. also the initial _a-_ of Armenian _atamn_ 'tooth') may survive in Aeol. _édontes_ 'teeth'.[142] The usual form _odont-_ would show a later assimilation of the initial _e-_ to the _o_ of the following syllable, cf. examples like _eréphō_ 'cover with a roof' vs. _órophos, orophḗ_ 'roof', _eréthō_ 'provoke' vs. _oroth-únō_ 'stir up', cf. also _kéleuthos_ 'road, path' vs. _akólouthos_ 'follower'. See Kuryłowicz, _Problèmes_, p. 187, cf. E.P.Hamp, _MSS_ 37, p. 61.

Hittite forms like _asanzi_ 'they are' (: 3 sg. _eszi_), _adanzi_ 'they eat' (: 1 sg. _edmi_) are generally supposed to come from *_H_1s-énti_, *_H_1d-énti_ by vocalization of the initial 'laryngeal'. This does not seem convincing to me. If we are right in taking _ha-as-te-er-za_ (= Gk. _astḗr_) as *_hster(-s)_, it follows that an initial preconsonantal *H_2 (or *H_3?) was _not_ vocalized to _a-_ in Hittite. Since *H_1, like *H_2 and *H_3, is a _consonant_ (§ 16), there is no reason _a priori_ that makes us expect a vocalization of the initial *H_1- of *_H_1s-énti_, *_H_1d-énti_. On the strength of */Hster-/ 'star' >

---

[140] It should be pointed out here that F. Bader's assumption (_BSL_ LXXXIX, 1994, 200) according to which Lat. _sunt_, Vedic _sánti_, etc., go back to *_ssé/ónti_ < *_H_1sé/ónti_, by assimilation, is nothing but pure invention.

[141] Otherwise Benveniste, _BSL_ 32, 74 ff. Winter, _KZ_ 72, p. 167, tries to show that *_H_1ed-_ may have denoted originally 'ein kauendes "essen"' and that 'teeth' should probably be understood as 'Kauende, Kauwerkzeuge'. For the normal athematic flection of the present indic. of √_H_1ed-_ 'eat' see Lindeman, Old Irish _ithid_, _Ériu_ XLV, 1994, 191ff.

[142] The development would have been as follows. IE pres. indic. (schematically) sg. *_H_1éd-ti_: pl. *_H_1d-énti_, part. *_H_1d-e/ont-_ 'eating; tooth' > Early Greek sg. *_éd-ti_: pl. *_ad-énti_, part. *_ad-é/ónt-_ 'eating; tooth'; the prothetic vowel adopting the timbre of the full grade form *_ed-_, *_ad-énti_, part. *_ad-é/ónt-_ 'eating; tooth' now become *_ed-énti_, part. *_ed-é/ónt-_ 'eating; tooth', cf. Aeol. _édontes_.

hster(-s) we can posit */H_1sénty/ (with a consonantal 'laryngeal'). Since *H_1* disappears in Hittite (§30), we would expect */H_1sénty/ to have given Hitt. *sanzi*.[143] For a possible explanation of the *a-* of *asanzi, adanzi,* see § 88 below.

It should be stressed that 'a Greek prothetic vowel is not by itself evidence for a laryngeal':[144] in cases where there is no outside corroborative evidence, the earlier existence of an initial 'laryngeal' cannot be conclusively demonstrated. Thus, the origin of the *e-* e.g. of *egeírō* 'awaken, rouse', perf. *egrḗgora* 'to be awake' remains unknown.[145] There is no trace of any initial 'laryngeal' in related forms in other IE languages, cf. e.g. Vedic aorist imperat. 2. dual *jigr̥tám,* perf. 3 sg. *jāgā́ra,* and, perhaps, OIr. *diuchtra-* 'awakes', if this contains the verb stem **gr-ā-,* see Lindeman, *Ériu* 35, 203f. It seems to me that Lejeune, *Phonétique historique,* p. 150, is justified in assuming that the prothetic vowels of Greek 'pourraient être d'origines (et de dates) diverses.' Cf. Kuryłowicz, *Studia Indoeuropejskie,* p. 114.

---

[143] Assuming that IE *#*H_1s-* gave Hitt. *#s-*, S. Kimball, *Studies in Memory of Warren Cowgill*, Berlin, 1987, 160ff., teaches that *as-*, weak stem of Hitt. *es-zi* 'is', 'must be analogical for *s- on the model of *ēpp-/app-* and *ēd-/ad-*.' (ibid. 181): the latter forms supposedly show the regular development of IE *#*H_1T-* into Hitt. *#aT-* (*#a-* < 'vocalized' *H_1). However, there is no proof that IE *H_1 was ever 'vocalized' in Anatolian, see below § 88. For Kammenhuber's views on Hitt. *appanzi, adanzi* and similar forms (*KZ* 77, 170f., n. 4, Hethitisch, 225), see the discussion in my *Einführung*, 71, 98 (with further references). The *a-* of *asanzi* cannot be 'nur Schreibung für den Mangel jeglichen Vokals' (Kuryłowicz, *IdgGr.* II, p. 256), since *sanzi* could have been written *sa-an-zi*.

[144] Cowgill, *EvfL*, p. 151, note 15, referring to Winter, *Studien zum 'prothetischen' Vokal im Griechischen*, p. 5.

[145] See Chantraine, *DELG*, p. 310. To explain a form like *nḗgretos* 'unwaking' by positing *ṇ́-H_1gretos (where *ṇ́H_1- is supposed to have given Gk. *nē-*, see R.S.P.Beekes, *Development*, 107f.) is not convincing, cf. the discussion by Lindeman, *Triple representation*, p. 59. See also Kuryłowicz, *Studia Indoeuropejskie*, p. 114, note 8, who likewise rejects the possibility of positing *ṇH_1-, *ṇH_2-, *ṇH_3- > Gk. *nē-*, *nā-*, *nō*: 'On attendrait des formes semblables *(nā-)* en italique et en celtique.' W.F.Wyatt Jr., *The Greek Prothetic Vowel* (1972), wholly rejects the possibility of taking prothetic vowels to be reflexes of IE 'laryngeals' (cf. also Wyatt Jr., *Indo-European /a/* (1970)). For Wyatt's often arbitrary 'rules', cf. the discussion by Polomé, *First International Conference on Armenian Linguistics, Proceedings*, 1980, 22 ff. Cf. also Mayrhofer, *Sprache* 17 (1971), p. 77. The assumption that Gk. *nêstis* 'not eating, fasting' derives from IE *ṇ́-H_1d-ti- (< √H_1ed- 'eat', cf. Luw. *azzti-* 'Speise' according to F. Starke, *Sprache* 31, 249ff.) is doubtful. Gk. *nêstis* may represent a substantivized 3 sg. *nēsti 'he eats not' (< schematically *ne+H_1ed-ti, cf. e.g. *ne+H_1esti in Vedic *nāsti*, OCS *něstъ* 'he is not'), see Wackernagel, *Kleine Schriften* 2, 1150 (cf. Schwyzer, *GrGr*. I, 504, Anm. 6). For such substantivized 3 sg. present forms in Vedic and other IE languages see Wackernagel-Debrunner, *Altind. Gramm.* II,2, 638 (e.g. *jígarti-*

Even in cases where Greek and Armenian show prothetic vowels in related word-forms, the earlier existence of an initial 'laryngeal' cannot be conclusively demonstrated if there is no corroborative evidence in other IE languages. It is commonplace that initial **r-* is always preceded by a prothetic vowel in Armenian. Hence, it remains doubtful whether *erek* 'evening' and Gk. *érebos* 'darkness' warrant the restitution of an IE noun of the shape *H_1reg^welos-, cf. Skt. *rájaḥ* 'dim space', Goth. *riqis* 'skótos'. For these reasons I think that Mayrhofer (*Festschrift Neumann,* p. 186, note 30, *IdgGr.* 1, p. 126, n. 115) is right in discarding Arm. *erek,* Gk. *érebos,* and Arm. *inj* (dative of *es* 'I'), Gk. *emé,* Arm. *inn* '9', and Gk. *ennéa* as evidence for a development of initial preconsonantal *H_1- into prothetic *e-* in these languages.

When it comes to the interpretation of the relevant Armenian and Greek material opinions differ widely among contemporary scholars. One can only hope that new linguistic evidence from Anatolian may one day throw new light upon the problem of prothetic vowels of 'laryngeal' origin in Greek and Armenian. The following examples may illustrate the point in question.

In his *IdgGr.* 1, p. 126, Mayrhofer reconstructs 'name' as *h_1neh_3men-.[146] The oldest Greek form is supposed to be *énuma* (in *Enumakratídās* n. pr.), whence, by assimilation, Aeol. Dor. *ónuma,* Ion.

'Verschlinger' < **ji-garti* 'verschlingt', *sv-astí-* 'das Wohlsein, Heil, Segen' < *asti,* cf. ORuss. *jestъ* 'das Sein, Hab und Gut', *nětъ* 'das Nichtsein'). See also Renou, *Gramm. Védique,* 157. It should be stressed here that the morphology of Luw. *az-za-as-ti-is* (KUB XXXV 133 II 25') is unclear: A. Mopurgo Davies, *KZ* 94, 106, n. 26, interprets the form in question as a 2. sg. present 'you will eat'. Despite Starke, *Sprache* 31, 249ff.) there is no proof that Luw. *az-za-as-ti-is* cannot contain a full grade in its first syllable.

[146] The underlying root is the one seen in Gk. *óno-tai* 'blames' according to Eichner, *Fachtagung* VI, p. 144, note 64 (?).

Att. *ónoma*. The Armenian form is *anun*, gen. sg. *anuan*.[147] Other forms are Hitt. *laman* < _*naman_ (by dissimilation), Lat. *nomen*, OIr. *ainm*, gen. sg. *anmae*, Albanian *emër* (Geg. *emën)*, Toch. B *ñem*, A *ñom*, OCS *imę*, Goth. *namo*, Skt. *nā́ma*. Scholars who, like Mayrhofer, posit _*H_1neH_3men-_ for Hitt. _*naman_ > *laman*, do not comment on the lack of a 'prothetic' *a-* here: if one maintains that the *a-* of *asanzi* 'they are' has arisen from a vocalization of the initial _*H_1-_ of _*H_1s-énti_ (Gk. *eh-ensi*), one ought to explain why there is no such prothesis in _*H_1neH_3men-_ > _*naman_.

Since no 'laryngeal' is attested by the Hittite form _*naman_ > *laman*, and since, further, prothetic vowels may be of non-'laryngeal' origin in Greek and Armenian (cf. above), other scholars (e.g. Anttila, *Schwebeablaut*, 126f., Lindeman, *Triple representation*, 64 f., Szemerényi, *Syncope*, p. 245) follow Cowgill, *EvfL*, p. 156, who thinks that the original inflection of 'name' may have been nom. acc. _*nómn̥_, gen. sg. _*n̥méns_ parallel to the type seen in Skt. *dā́ru*, *dróḥ* 'tree' < _*dóru_, gen. sg. _*dréws_. The *e-* of Gk. *énuma* and the *a-* of Arm. *anun*[148] would then be of non-'laryngeal' origin.[149]

---

[147] For the inflection of Arm. *anun*, gen. sg. *anuan*, see Lindeman, *AAL* 7, 57 f., who tries to show that the oblique singular stem of this word, i.e. the pre-Armenian _*anowan_ attested by gen. dat. loc. *anuan*, may ultimately go back to _*nomn̥ti_ (= Gk. *onómati*) with a phonetic loss of final _*-ti_, cf. *kʿsan* '20', < _*wīk'm̥tī̆_.

[148] Referring to Arm. *vatʿsun* '60, for expected _*vetʿsun_ (cf. *vecʿ* '6'), Lindeman, *Triple representation*, p. 64, tentatively suggests that the oldest form of 'name' may have been _*enun_ in Armenian. The change of _*enun_ to *anun* would have preceded the change of an _*e_ to *i* before a following nasal in Armenian.

[149] B.A. Olsen, *BiOr*. Jahrgang XLVII, 1990, 53, taking 'name' to have begun with a 'laryngeal' in the parent language, writes: 'The lack of prothetic vowel in Hittite *lāman* is hardly an argument in favour of Lindeman's theory, cf. the parallel development of Hitt. *link-* ~ Gk. *elégkhō*.' Olsen's objection, however, completely misses the point: whereas the equation Hitt. *laman* = Gk. *énuma* is etymologically flawless, the same cannot be said of the proposed equation Hitt. *li(n)k-* = Gk. *elégkhō*, for the simple reason that the etymology of Hitt. *li(n)k-* 'swear, take an oath' remains unknown. Clearly, the probative force of a linguistic form which has no sure etymology, necessarily remains *nil*. Also, Olsen, ibid., is wrong in following Mayrhofer, *IdgGr*. 1, 125, in taking Vedic *raghú-* 'schnell' and Gk. *elakhús* to come from IE _*H_1ln̥g^{w}h-ú-_: this reconstruction which rests entirely on the preconceived idea that the *e-* of Gk. *elakhús* must go back to a

The oblique stem **n̥men-* (cf. OIr. gen. sg. *anmae* < **n̥men-s)* would have given Anatolian **anman-* which may be continued in Hierogl. Luw. *ad(a)man-* (cf. *Anatolian Studies* 28, p. 104; 30, p. 124) with a dissimilation of the first *n* to *d*, and a graphic or genuine anaptyctic *-a-*; cf. Melchert, *Sprache* 29, p. 21. An Anatolian stem form **nam(a)n-* is attested by Hierogl. Luw. *lamnisati* (3 sg.), cf. Hitt. *lam(a)niya-* 'to name; mention, etc.' (Cf. Meriggi, *Hieroglyphisch-Heth. Glossar*, 78).

For a discussion of the Tocharian forms for 'name', see Lindeman, *Triple representation*, p. 65, who thinks that the oblique stem **n̥men-* at an early stage developed into Toch. **änm'än-* (with regular palatalization of *m* before **ä* < **e*), whence **än'm'än-* with palatalization spreading to comprise the cluster *nm*. Anaptyxis and subsequent loss of **ä-* would cause the latter form to become **ñäm-*( ), the palatal initial **ñ-* of which may have spread by analogy to the old nom. acc. sg. form **nam(än)* > **ñam(än)*, B *ñem*, A *ñom*.

A further controversial example is Gk. *ósse* 'the two eyes' and Arm. *ač*^{c}*k*^{c} 'eyes', the IE preform of which is reconstructed as */$h_3k^wih_1$/ by Mayrhofer, *IdgGr*. 1, p. 127, note 118, with references. As prothetic vowels from vocalized initial 'laryngeals' are otherwise unknown in Baltic and Slavic, Lindeman, *Triple representation*, p. 47, note 35, posits a full grade **H_3ék^{w}iH* for Lith. *akì*, OCS *oči*, Gk. *ósse*, Arm. *ač*^{c}*k*^{c}, and Toch. B *eś(a)ne*, etc. According to Martinet's analysis (*Économie*, p. 229), the initial *a-* of Arm. *akn* 'eye', pl. *ač*^{c}*k*^{c} may come from IE **xek*^{w}- < **x*^{w}*ek*^{w}- by dissimilation of labiality, cf. § 40, *Remark* above; for *H_3 = *x^w, see § 95 below. Consequently, all the above mentioned forms for 'eye' go back to the same preform **H_3ék^{w}iH* with full grade root vocalism. For the ending of Gk. *ósse* see § 48.

Equally uncertain is the comparison of Gk. *opuíō* 'marry, take to wife', allegedly from IE **H_3pus-*, with Hitt. *hapus-* 'penis', to be read as [*hpus-*]: as the writing *ha-a-pu(-ú-)s-* shows, the Hitt. word represents [*habus-*] (according to Sturtevant's rule). For 'inconsequential scriptio

---

'vocalized' *H_1-, is unjustifiable, methodologically. For the equation of Gk. *eleuth-* in *eleutherós* 'free' with Vedic *vī-rudh-* 'plant' < **vi-Hrudh-* see Chantraine, *DELG*, 337, who rightly considers the proposed connection 'indémontrable'. Also, there is no way of proving that the initial 'laryngeal' of Indo-Ir. **Hrudh-* was in fact *H_1-.

plena in clusters' C. Watkins, *Festschrift Neumann*, 456, refers to E. Neu, *Studien zum endungslosen "Lokativ" des Hethitischen, IBS* 23, 1980, n.7. However, what E. Neu says in his note is that the Old Hitt. form *tagan* contains a 'morphologic zero grade' according to Kuryłowicz's teaching in *IdgGr.* II, § 328, cf. also Schindler, *Sprache* 13, 1967, 201. If we take Kuryłowicz's 'morphologic zero grade' seriously, it follows that Hitt. *tagan* must be read as [*dagan*] with a full vowel in its first syllable (*-a-* < earlier **-o-*), and not as [*dgan*]. Thus, Hitt. *dagan*, occasionally written *da-a-ga-an* in the later language, gives no support to the proposed interpretation of *ha-a-pu(-ú-)s-* as [*hpus-*], cf. Lindeman, *Glotta* LXVIII, 1990, 170, n. 10. For a different view on Hitt. *hapus-* see Puhvel, *HED* 3, 133, who prefers to connect it with Hitt. *hap(p)-* 'joint, attach' < IE **H_2ep-*, allegedly preserved in Lat. *aptus* 'joined'. J. Reinhart, *Iranian and Indo-European Studies. Memorial Volume of O. Klíma*, Praha, 219ff., tries to connect Slav. *pyjъ* 'membrum virile' with Hitt. *hapus-*, which is formally indemonstrable.

§ 68 The material analysed above makes it seem beyond reasonable doubt that certain prothetic vowels in Greek and Armenian have a 'laryngeal' origin. Further, we have seen that the rare examples where Greek and Armenian prothesis actually corresponds to the presence of *h-* in Anatolian all show initial *a-*, e.g. Gk. *astḗr*, Arm. *astł* 'star' vs. Hitt. *hster*(-s), and, perhaps, Arm. *arew* 'sun', *areg(-akn)* 'id.' vs. Hitt. *har(u)wanai-* 'es hellt vollständig auf'. It should be stressed, therefore, that the prothetic vowels do not provide any conclusive evidence for the maintenance of the different timbres (**H_1 *H_2, *H_3*) of the 'laryngeals' in the IE dialects ancestral to Greek and Armenian. Cf. also B. A. Olsen, *REArmNS* XIX, 1985, 15. See further the critical discussion by Lindeman, Is there any conclusive evidence for a triple representation of Schwa in Armenian?, *AAL* 11, 1990, 25ff., rejecting the hypothesis of F. Kortlandt, *Studia Caucasica* 7, 1987, 61ff., according to which IE **#H_1C-*, **#H_2C-* and **#H_3C-* gave Arm. *#eC-*, *#aC-* and *#oC-*, respectively.

We do not know how an initial cluster of the type **H_2w-* came to be pronounced **aw-* in Gk. *á(w)ēsi* 'blows' (vs. Skt. *vā́ti*, OHG *wāen*, etc. with regular loss of the initial 'laryngeal'). Crossland, *ArchLing.* 10, p. 84, may well be right in assuming that loss of a 'fricative in initial sequences such as /*xw*/ and development of a 'Hilfsvokal' before it seem likely phonetic developments. The latter has a parallel in Greek *iktînos;* cf. Skt. *śyenas.*'

§ 69 According to W.M. Austin, *Lg.* 17, 83 ff., metrically long initial *m̄*, *n̄* and *l̄* in Homeric Greek that cannot be explained by etymology (e.g. *n̄iphás* < **snig*^{w}*h-*) or analogy (e.g. *m̄égas* after *m̄ikrós* < **smi-*) reflect old sequences of initial 'laryngeal' plus a following resonant (**HR*-). However, Austin's hypothesis remains without foundation, cf. the discussion by Messing, *SSP*, 194 ff.; see also Cowgill, *EvfL*, 160f. As an illustration we will examine one of Austin's examples, i.e. Hom. *sùn dḕ nephéessi (e* 293), where the *n̄-* of *neph-* is supposed to owe its length to the initial 'laryngeal' of the IE word for 'cloud', reconstructed as *H_1*nebh-*, cf. Skt. *nábhas*, Hitt. *ne-pí-is*: Gk. *ómbros* 'rain', Skt. *ámbhas* 'water'. However, we know from Szemerényi's careful analysis (in *Syncope*, 241 ff.) that IE **nébhos* 'cloud' had no initial 'laryngeal' (as Gk. *ómbros* and Skt. *ámbhas* do not belong here). We see no fault with the traditional explanation of initial long *n̄, m̄, l̄* in cases like Hom. *n̄eph-* (see Schwyzer, *GrGr.* I, p. 311, cf. Cowgill, *EvfL*, 161 f.).[150]

Remark: According to Sapir, *Lg.* 14,271 ff., Greek *h-* corresponding to an initial **w-* or **y-* in other IE languages (e.g. Gk. *hésperos:* Lat. *uesper,* Gk. *hós:* Skt. *yá-*) originates in sequences of 'laryngeal' plus **w-* and **y-*. Cf. Sturtevant, *IHL*, 76ff., Polomé, *RBPhH* 30, p. 457, Zgusta, *AO* 19, p. 446, Lehmann, *PIEPh.*, 33f. and p. 107, Schmitt-Brandt,

---

[150] According to F. Bader, *BSL* LXXXIX, 1994, 200, 216, an IE prevocalic sequence of the shape **#Hw-* developed into two different sequences in Greek, i.e. (a) **#Hw-* > **#ww-* (later simplified to *#w-*), and (b) **#Hw-* > **#°Hw-* where ° is a Greek prothetic vowel. The development in (b) is said to belong to a younger stratum than that of (a). These assumptions for which there is simply no reliable linguistic evidence are wholly gratuitous. Thus, Bader's reconstruction (ibid. 200) of a Proto-Gk. **wwoîda* 'I know' is pure invention: the IE perfect **wóyd-*H_2*a* had no initial 'laryngeal'. Similarly unjustifiable is the idea (p. 216) that IE *H_1*werg-* yielded both **wwerg-* and **ewerg-* (< *°H_1*werg-*, cf. Ion. *eérgō*) in Greek: since there is no extra-Greek evidence for an initial 'laryngeal' in IE **werg-* 'shut in, etc.' (see Pokorny, *IEW*, 1168), **ewerg-* may have a prothetic vowel of non-'laryngeal' origin. Finally, and most importantly, Bader does not clarify how a form such as **#*H_1*werg-* which—according to her own hypothesis—had yielded Proto-Gk. **#wwerg-* could *later* have given **#°*H_1*werg-* with a prothetic vowel. In *Kuryłowicz Memorial Volume* I, 317-44, Bader elaborates on her previous hypothesis.

Vokalsystem, 79 ff. However, Sapir's hypothesis finds no convincing support in the existing material, cf. the critical discussion by Cowgill, *EvfL*, 160ff., who points to the development of IE *H_2w- into Gk. *aw-*, seen e.g. in *H_2wéH_1-ti (Skt. *vā́ti* 'blows') > Gk. *á(w)ēsi*. To posit an IE distinction between a reduced grade (*H_{2e}w-) and a zero grade (*H_2w-) in order to account for Greek prothesis (*aw-*) and Gk. initial *h-*, respectively, is entirely *ad hoc*, cf. Cowgill's observation in *EvfL*, p. 162: '... I see no good grounds for accepting a special reduced grade for Proto-Indo-European so long as no one is able to produce a set of environments, either phonologic or morphologic, in which reduced grade was regular in PIE, comparable to the environments that can be established for normal grade, zero grade, *o*-grade, and lengthened grade. Until that time, hypotheses relying on a PIE distinction between reduced and zero grade must be treated with the utmost skepticism.' Cowgill's arguments apply also to H. Birnbaum's recent conjectures regarding IE reduced and zero grade, *Linguistica Baltica* 4, 13ff.

The idea that a sequence of (voiced) 'laryngeal' + **y-* underlies Gk. *z-* (Hammerich, *Laryngeal before Sonant*, 12ff. and Lehmann, *PIEPh.*, 74ff.) has been shown to be incorrect by Cowgill, *EvfL*, 163ff. (Schmitt-Brandt, *Vokalsystem*, 79 ff., assumes that IE **y-* is regularly continued in Greek as *z-*). For a detailed discussion of the treatment of initial 'laryngeals' before **i* and **u* followed by a consonant in Greek, see M.Peters, *Untersuchungen*, 5 ff. The author finds that prothetic vowels did not develop before **i*, but did before **u* in Greek. (Gk. *huphaínō* 'weave', if it reflects **Hubh-*, would then be an exception, which does not seem plausible: for this verb an initial 'laryngeal' might be assumed on the strength of the nasal present *unábh-* found in Vedic (e.g. *unap* ipf. 2 sg.), i.e. IE **Hunébh-*, see R.S.P. Beekes, *Development*, p. 67. Assuming that Vedic *ā́yavasa-* '(Ort) ohne Weide' presupposes **ṇ́-Hyeweso-* (cf. *yáva-* 'barley'), B. Forssman, *Festschrift for Henry Hoenigswald*, 1987, 115ff., posits IE **Hy-* for the initial *z-* of Hom. Gk. *zeiaí* 'wheat', etc. However, the initial *ā-* (of *ā́yavasa-*) is no conclusive evidence for the original presence of an initial 'laryngeal' in Vedic *yáva-*, see the discussion above § 50.

§ 69 a. On the strength of Hittite material some contemporary scholars[151] assume a regular loss in the parent language of an initial *H_2 in the position before an immediately following resonant (*R* = **y*, **w*, **r*, **l*, **m*, **n*) + **o*, i.e. IE *#H_2Ro- > **#Ro-*, whence Hitt. *#Ra-*, e.g. Hitt. *warsa-* 'Regenguss' < *H_2worso- or *H_2worsaH_2- vs. *H_2wers- > Gk. *aérsē, eérsē* 'dew' (with a prothetic vowel allegedly of 'laryngeal' origin); Hitt.*wadar- < *H_2wodr̥ 'speech' in *watarnahh-* 'command' vs. *H_2wed- > Skt. *vad-* 'speak', cf. *H_2ewd- > Gk. *audḗ* 'voice' (see above § 31). For Hitt. *watarnahh-* cf. Melchert, *AHPh.*, 50.

---

[151] Schindler *apud* Eichner, *Fachtagung* VI, 129, n. 41, M. Peters, *Untersuchungen*, 3, 14, 61, n. 30; cf. also Eichner, *Laryngaltheorie*, 140, *Gedenkschrift Kronasser*, 20, n. 21, *Fachtagung* VI, 128f., n. 41; Melchert, *AHPh.*, 49f. with further references. Oettinger, *Festschrift Strunk*, 219, n. 23, quite simply states the following: 'Im Uridg. schwand h_2 regulär vor *u̯o*.' Further, J.E. Rasmussen, *Fachtagung* VIII, 349, sees a reflex of an original consonant in the *o*-vocalism of—etymologically unclear—words like Gk. *outáō* 'wound'; *nōreî* ·*energeî* (Hsch.); *loigós* 'ruin' (vs. *olígos*).

However, it is difficult to see any phonetic reason for the loss of *H_2, probably a voiceless fricative [*x*], in a sequence of the type *H_2wo-, see Lindeman, *HS* 102, 281: one might rather have expected the *w to disappear (by dissimilation of labiality) before the following rounded vowel, i.e. (schematically) *[xwo-] > *[xo-], cf. e.g. Prim. Bret. *hwoir 'sister' (< Celtic *swesūr) > Mid.Bret. *hoer, hoar*, Mod.Bret. *c'hoar*, etc. (see Jackson, *HPhB*, 185). Further, as there is no initial *h-* in *warsa-* and since not all prothetic vowels in Greek owe their existence to a word-initial 'laryngeal', there is nothing that proves that the prothetic *a-*, *e-* of Gk. *aérsē, eérsē* is of 'laryngeal' origin. There is also little to prove that Hitt. *warsa-* presupposes an earlier *o-vocalism in its root syllable: if IE *e gives Hitt. *a* before *r* and a following consonant (cf. *(a-)ar-as-zi* 'flows' : Skt. *arsati* 'id.'),[152] Hitt. *warsa-*, if it does not reflect a zero grade *wr̥s-, may come from *wers-.[153]

According to Catsanicos,[154] Hitt. *wast(a-)* and Gk. *a(w)átē* 'error, sin', *a(w)áomai* 'sin' go back ultimately to an IE verb stem *H_2wem- 'faillir'. He explains (p. 82) the loss of the initial *H_2- in Hittite as 'dû à un phénomène de sandhi qui peut être observé dans le syntagme hérité *meg'H_2 H_2woms-° 'faillir grandement' → *meg'H_2 woms-° > Hitt. *mek was-'. Lindeman *apud* Catsanicos p. 82, suggesting that the Greek prothetic *a-* in *a(w)áomai* may be due to a 'fausse coupure': *meg'H_2 wm̥-to → *még áwă-to, cf. *még a(w)ásthē* 'il a grandement failli' (see Catsanicos, ibid. pp. 29, 40, 42, 66), thinks that Hitt. *wast(a)-* might reflect IE *womst- without any initial 'laryngeal'. If so, the IE root in question could be posited as *wem-.

---

[152] For Hitt *a* < *e before *r* see also Puhvel, *HED* 3, 168. See, however, the doubts expressed by Catsanicos, *Recherches sur le vocabulaire de la Faute*, 81, n. 3.

[153] It should not be overlooked that Hitt. *warsa-* could come from *$H_{2/3}$wors- with a *voiced a/o*-colouring 'laryngeal' (giving *zero* in Hittite, cf. § 28).

[154] *Recherches sur le vocabulaire de la Faute*, pp. 66, 82.

Thus, as far as the present author is able to judge, the claim for which there seems to be no compelling phonetic reason, i.e. that initial $*H_2$- was lost in an IE sequence of the shape $*\#H_2Ro$-, finds no conclusive support in the cited Hittite or non-Anatolian material. See further the discussion by Catsanicos, op. cit. 65f., with references.

§ **70** In *Eos* XXX, 1927, 206 ff., Kuryłowicz tried to show that the origin of the so-called 'Attic' reduplication could be explained by the assumption of a 'laryngeal' prothesis in Greek, cf. Hom. *enḗnothe, eilḗloutha*[155] < $*H_1ne\text{-}H_1nodh\text{-}e$, $*H_1le\text{-}H_1loudh\text{-}H_2e$, etc. Later, in *Apophonie*, p. 270, withdrawing his earlier explanation, he proposed an interpretation by analogy: the long (second) syllable of *eilḗloutha*, etc. was reshaped on the model of the compound-initial lengthening found in cases like *ép-ēlus* 'stranger'. Otherwise Schwyzer, *GrGr*. I, p. 766, note 8. For the 'Attic' reduplication, cf. also F.A. Nikitina, *VJA*, 1962, 1, 81 ff., who thinks that some of the prothetic vowels come from a 'laryngeal' whose articulation was similar to that of IE **s*. This 'laryngeal' is supposed to have fallen together with **s* in all the IE languages with the exception of Albanian, Greek and Armenian, where it developed into vowels. However, as long as the author has not established the exact conditions determining the various phonetic developments (partly into vowels, partly into **s*), this hypothesis remains without foundation, see Lindeman, *Einführung*, 74. For cases where Hittite *s* seems to correspond to an IE 'laryngeal', see Schindler, *Sprache* 15, 159 f., and note 91, cf. above § 37 a.

We can be reasonably certain that the 'Attic' reduplication does not allow for a 'laryngeal' explanation (despite C.J. Ruijgh, *Mélanges Chantraine*, 21 ff., Mayrhofer, *IdgGr*. 1, p. 125): the morphologic rules governing the formation of the IE perfect stem exclude the possibility of positing **Hle-Hl(o)udh-* to account for Gk. *elēl(o)uth-*: 'Aussi longtemps que ə̥$_1$ etait une consonne et que ə̥$_1$*l-* formait un groupe consonantique, le redoublement consistait en une répétition du premier élément consonantique plus *e*, donc: ə̥$_1$*e-*+ə̥$_1$*loudh-* > **ēlouth-*. Si, de l'autre côté, on part d'une racine à initiale vocalisée (**eleudh*), le redoublement sera égal à l'allongement de l'initiale, d'où *ēlouth-. Pour peu qu'on s'en tienne scrupuleusement aux règles du redoublement indo-europèen, chacune des deux hypothèses nous fait attendre a priori un parfait *ēlouth-.' *(Apophonie*, p. 270) See also Kuryłowicz, *Metrik und Sprachgeschichte* (1975), 15 ff., H.Schmeja, *Studies Palmer*, 353 ff., Kuryłowicz, *Studia Indoeuropejskie*, 111 f.

---

[155] *ei* for *e* (in *eilḗloutha*) by metrical lengthening.

For the 'Attic' reduplication, see now Szemerényi, *Acta Mycenaea, Proceedings of the 5th International Colloquium on Mycenaean Studies* (1972), 309 f. Szemerényi assumes, perhaps correctly, that a monosyllabic stem like *ed-* replaced its *old* perfect **êda* (cf. Goth. pl. *ētun*,[156] Lat. *ēdi*), many forms of which would have been homonymous with forms both of **edmi* and of *eimí*, by *éd-ēda* by prefixing *ed-* on the model of (**estēs (ed-tā-s)*→) *ed-estḗs* 'eater'. Disyllabic stems such as *ela-*, *eleuth-* then followed suit and formed *élēla*, *elēlouth-*, 'irrespective of whether the initial vowel was inherited or prothetic.' (p. 310).

§§71-72 The Balto-Slavic intonations

§ 71 According to the *communis opinio*[157] the Balto-Slavic intonations —at any rate outside the final syllable—are historically connected with the (non-Anatolian) Indo-European quantity: in principle, long IE monophthongs and the reflexes in Balto-Slavic of IE *ṝ, *ḹ, *ṃ̄ and *ṇ̄ (cf. §49) become acute,[158] while normal (full grade) diphthongs and the reflexes of (short) *ṛ, *ḷ, *ṃ and *ṇ become circumflex.[159] Examples: Lith. *mótė*, Latv. *māte*, S.-Cr. *mȁti* vs. Skt. *mātā́*, etc.; Lith. (acc. sg.) *sū́nų* vs. Skt. *sūnús;* Lith. *výras* 'man', Latv. *vir̃s* vs. Skt. *vīra-*; Lith.

---

[156] For the Gmc. preterite **ēt-*, **ēt-un* (Goth. *-ēt, ētun*, OHG *āz*, *āzun*, etc.), cf. the discussion by Lindeman, *NTS* 22, p. 76.

[157] F. de Saussure, *MSL* 8, p. 425; Kuryłowicz, *Accentuation des langues indo-européennes*, 162 ff. Chr. Stang, *VerglGramm.*, 128 ff., *Slavonic Accentuation*, 5 ff.

[158] i.e. Lith. ´ on long, ` on short syllables, Latv. ~ (Dehnton, e.g. *sẽ̄t* = Lith. *sė́ti* 'sow') and (under certain circumstances) ^ (Stosston, Brechton, see Stang, *VerglGramm.*, 138f.), S.-Cr. ̏.

[159] i.e. Lith. ˜, Latv.`, S.-Cr ̑.

dúoti 'give', S.-Cr. *dȁti* vs. Skt. *dā-*, etc.; Lith. *añtras*, Latv. *ùotrs* vs. Goth. *anþar*; Lith. (acc. sg.) *dañtį* < IE **dont-* 'tooth'; Lith. *paršas*, S.-Cr. *prȃse* vs. Lat. *porcus* 'hog, pig'; Lith. *diẽvas*, Latv. *dìevs* vs. Skt. *devá-*; Lith. *sniẽgas*, Latv. *snìegs*, S.-Cr. *snȇg* vs. Goth. *snaiws*, etc.[160] For a number of cases, however, a so-called metatony has to be assumed, i.e. a change from acute to circumflex or vice versa, cf. Stang, *VerglGramm.*, 144 ff. Examples: 3 sg. fut. Lith. *duõs, stõs:* I sg. *dúosiu, stósiu.*

§ 72 There is probably no direct connection between the intonations of Balto-Slavic on the one hand, and the 'laryngeals' of Indo-European on the other, see C. Watkins, *EvfL*, p. 116.[161] Thus, Lith. *bū́ti* and S.-Cr. *bȉti* presuppose a Balto-Slavic base **bū-* corresponding to a (non-Anatolian) zero grade **bhū* (seen in Skt. *bhū-*, etc.). It is only on the strength of Skt. *bhavitum* and similar formations that the zero grade **bhū-* can be analysed as **bhu-H-* (cf. § 47 above). Consequently, Balto-Slavic forms with acute cannot be considered evidence for a lost 'laryngeal' except in such cases where no other explanations of the origin of the long monophthongs (or long diphthongs) in question are available.[162]

---

[160] The following correspondences may illustrate the intonations in the Slavic languages. Circumflex: Russ. *górod*, S.-Cr. *grȃd*, Slov. *grȃd* (Lith. *gar̃das)*. Acute: Russ. *voróna*, S.-Cr. *vrȁna*, Slov. *vrána* (Lith. *várna* 'crow').

[161] Otherwise Kortlandt, *KZ* 92, 1978, 269 ff. (with further references), *Laryngaltheorie*, 299ff. Kortlandt assumes that Early Slavic had preserved the IE 'laryngeals', and that the disappearance of **H* at different stages explains the different accentual developments in Slavic. In the field of Slavic studies, Kortlandt's analyses seem to have found little following. Cf. Lindeman's critical observations in *HS* 102, 285f.

[162] Lehmann, *PIEPh.*, p. 31, restitutes the IE word for 'heart' as **keXrd-* on the strength of Lith. acc. sg. *šìrdį* (nom. *širdìs* 'heart'), Latv. nom. sg. *sir̂ds*, S.-Cr. *sȑce*. This restitution, however, creates considerable problems for our interpretation of forms like Skt. *hṛd-*, Gk. *kardía*, Lat. *cord-*, etc. The Balto-Slavic forms admit of an alternative, and much simpler explanation, cf. Skardžius, *IF* 62, p. 162: referring to the coexistence of *širdìs*, gen. sg. *širdès (-iẽs)*, gen. pl. *širdų̃*, and *šerdìs, -iẽs, šérdį* 'Mark, Kern im Holze' or *šerdẽ, -ẽs, šérdę* 'id.' (= Latv. *ser̂de*), Skardžius concludes 'dass im Baltischen einst ein Wurzelnomen **šérd-/*šir̃d-* vorhanden gewesen ist; vg. ai. *hā́rdi/hṛd-*, gr. *kêr/kardía,*

The following phonologic feature is of particular importance for the 'Laryngeal Theory': an IE sequence _*-eRH-_ in the position before a plosive or a resonant developed in Balto-Slavic into a long diphthong _*-ēR-_ the long vowel of which was subsequently shortened; the original length is reflected, however, by the acute accent, e.g. Lith. *gérti* 'drink', Latv. *dzer̂t* < _*g^{w}erH-t-_ (Skt. *giráti, gīrṇá-*, etc.). See Kuryłowicz, *Apophonie*, § 35.[163]

Similarly, a preconsonantal sequence _*-R̥H-_ seems to have given a Balto-Slavic long diphthong _*-īR- (*-ūR-)_, cf. Lith. *pìlnas* 'full', Latv. *pil̃ns*, S.-Cr. *pȕn*: Skt. *pūrṇá-*, etc. (< _*pl̥H$_1$nó-_). Short preconsonantal _*-R̥-_ is reflected in Lith. *vil̃kas*, Latv. *vìlks*, S.-Cr. *vûk*: Skt. *vŕ̥ka-*.

In conclusion we will quote some Balto-Slavic forms whose acute accent indirectly points to the original presence of 'laryngeals' in the IE pre-forms in question:[164]

S.-Cr. *pȁsti* 'to pasture', Czech *pásti:* Lat. *pāstus, pāstor*, etc., Hitt. *pahhs-* (§ 39 above); S.-Cr. *prȁm*, Russ. *poróm* 'ferry': Gk. *peráō* and Hitt. *parhh-* 'drive' (cf. § 36, *Remark* 2 above); Lith *vémti* 'to vomit', Latv. *vem̃t* : Skt. *vámiti*, Gk. *émetos*, etc.; S.-Cr. *mjȅra*, Czech *míra* 'measure': Skt. *mā́ti* 'measures'; Lith. *árti* 'to plough', *árklas*, Latv. *ar̂kl(i)s*, S.-Cr. *rȁlo* 'plough', etc.: Lat. *arātrum*, Gk. *árotron*, etc. (Hittite *har-as-zi* 'beackert' may be a loan-word from Semitic, see Puhvel, *HED* 3, 185, with references). Lith. *plónas* 'thin, fine', Latv. *plâns* 'flat, etc.': Lat. *plānus*, Hitt. *pal-hi-is* 'broad' (< _*pl̥H$_2$-i-_, cf. Sturtevant, *IHL*, p.42).

---

kradíē u.a. Aus diesen zwei verschiedenstufigen Wurzeln haben sich später zweierlei Wörter entwickelt: *šerdìs, šérdį* oder *šerdė̃, šérdę* mit ursprünglich langer Wurzel und *širdìs*, _*šir̃dį_ welches den Stosston aus dem bedeutungsähnlichen *šérdį, šérdę* erhalten haben kann.' Cf. C. Watkins, *EvfL*, p. 117.

[163] An original sequence _*-eHR-_ likewise gives Balto-Slavic _*-ēR-_ whose length is reflected by the acute, e.g. Lith. *sáulė* 'sun', Latv. *saũle*: Gk. _*hāwélios_, etc. Such forms are of infrequent occurrence.

[164] Cf. Vaillant, *BSL* 37, 111 ff.

§§ 73-75 The voiceless aspirates of Indo-Iranian

§ 73 Basing himself on a suggestion by de Saussure (*BSL* 7, CXVIII),[165] Kuryłowicz explained the *tenues aspiratae* of Indo-Iranian as a specifically Indo-Iranian innovation whose origin is to be found in clusters of a voiceless plosive plus a following 'laryngeal' (see *ÉI*, 46ff., *Apophonie*, § 47, *IdgGr.* II, 339ff.).

A particularly convincing example is the noun seen in Skt. *pánthāh* = Avestan *pantå*. In the strong cases Avestan has *t*: sg. nom. *pantå*, acc. *pantąm* (and *pantānəm)*, pl. nom. *pantānō*, but in the weak cases ϑ: sg. instr. *paϑa*, gen. *paϑō*, loc. *paiϑī*, pl. acc. *paϑō*, gen. *paϑąm*. Avestan seems to have preserved the original distribution of *-tā-* < **-teH-* and **-th-* < **-tH-*, i.e. **péntoH-s/*pn̥tH-é/ós (> *pn̥th-é/ós)*, etc.[166] In Sanskrit *-th-* has penetrated into the strong cases by analogy (nom. sg. *pánthāh*, gen. sg. *patháh*, etc.).

Other plausible examples are verbs of the 9th Class like *grathnā́ti* 'to string together', *mathnā́ti* 'to stir around', *śrathnā́ti* 'become loose'. Such verbs are old *seṭ*-roots (**met-H-*, etc.), see Hoenigswald, *EvfL*, 94f.[167] A further example: Skt. *rátha-* 'a chariot' (< **rótHo-):* Lat. *rota* 'wheel;

---

[165] For a historical survey, see Szemerényi, *BSL* 68,8 ff.

[166] The reconstruction **péntoH-s* (Lindeman, *Einführung*, 77) is in agreement with Hirt's rule (Hirt, *IdgGr.* 2, 174): 'Ein vollstufiges *e*, das in einer Zeit nach der Einwirkung der idg. Betonung seinen Akzent verlor, wurde nun nicht mehr zu ь oder Null geschwächt, sondern wandelte sich in *o*. Es ist wohl anzunehmen, dass sich der alte Akzent in Form eines Gegentons erhielt.' The quality of the stem final 'laryngeal' of **péntoH-s* remains undecided, however.

[167] To account for the tenuis aspirata of Vedic *rekh-* 'tear' (RV VI,53,7 *ā́ rikha* impv.) Mayrhofer, *EWAIA* II s.v. *rekh-*, cf. *Quaderni dell'Istituto di Glottologia* 6, 1994, 201, reconstructs an IE verbal stem **H_1reykH$_2$-* which is supposed to also underlie Lith. *riẽkti* 'cut (bread), plow new land', Gk. *ereíkō* 'to rend with the plowshare, etc.', W *rhwygo* 'tear, split'. The reconstruction of a verbal theme of the shape **H_1reykH$_2$-* is highly questionable for two reasons, however: (a) as there is no extra-Greek evidence for an initial 'laryngeal' in this stem, the *e-* of *ereíkō* may be a Greek prothetic vowel of non-'laryngeal' origin; (b) **H_1reykH$_2$-* is an inadmissible verb stem according to Benveniste's theory of the IE root, see *Origines*, 153, for the possible structures of IE verbal themes.

chariot' (< *_roteH_).[168] For the Avestan evidence see Kellens-Pirart, _Les textes vieil-avestiques_ I, 1988, 75.

§ 74 Assuming an original triadic plosive system *_t_ : *_d_ : *_dh_ for Indo-European, Kuryłowicz explains the development of /th/, etc. as autonomous phonemes in Indo-Iranian along the following lines. In the absence of voiceless aspirates, *_dh_, etc. must be regarded as phonemically neutral, although in most cases they were voiced sounds phonetically. In the position after initial *_s_- (and probably in word-final position), however, *_dh_, etc. were realized as voiceless *_th_, etc., i.e. *_sdh_- > *_sth_- (Siebs' Law).[169] In Indo-Iranian these voiceless allophones of *_dh_, etc. now fell together with the reflexes of the clusters *_t_ + _H_, etc. > *_th_, etc. giving rise to a phonemic contrast between *_dh_, etc. and *_th_, etc. For a critical appraisal of Kuryłowicz's view, see W. Sidney Allen, _Studies Greenberg_ II, p. 240. It should also be noted that not all scholars accept Siebs' Law as well-founded, see for example Szemerényi, _Einführung_, p. 136 and Mayrhofer, _IdgGr._ 1, p. 93, note 13.

Remark: Sturtevant's hypothesis (_Lg._ 17, 1ff. and _IHL_, 83ff.) according to which voiceless aspirates arose already in the parent IE language from sequences of plain plosives + 'laryngeal' has been shown to be wrong by Polomé, _RBPhH_ 30, 465ff., Messing, _SSP_, 182 f., Cowgill, _Evfl_, 171 ff. For Sturtevant's interpretation (_Lg._ 16, 179ff.) of the Greek aspirated perfect (_pépompha_ < $*pe\text{-}pomp\text{-}H_2e$, etc.), see

---

[168] Semantically doubtful is Hamp's etymological equation (_Linguistica_ 33, 1993, 62f.) of Skt. _śíkhā_ 'tuft of hair, crest, point, tip, border, knife-edge, arrow' with Alb. _thikë_ 'knife' on the strength of which he reconstructs an old ablauting noun $*k'ik\text{-}(e)H_2$ or $*k'ik^w\text{-}(e)H_2$: the aspirate of _śíkhā_ supposedly reflects a stem $*k'ikH_2$- or $*k'ik^wH_2$-. Lehmann's suggestion (_PIEPh._, p. 82) that the absence of palatalization of _kh_- before _y_ in _khyā_- 'see' may be explained by the assumption of an original cluster *_kHy_- seems difficult to justify, see Borgstrøm, _NTS_ 17, p. 562.

[169] For Siebs' Law see now A.M. Schenker, The PIE obstruents, _Kuryłowicz Memorial Volume_ I, 73-80, esp. p. 77. In _Current Trends in Linguistics_ 11, 1973, p. 68, note 7, Kuryłowicz observes: 'The possibility of IE initial clusters _s_ + "voiced" aspirate is borne out by examples like Gr. _sphe_ < *_sebḥ_ or _skheîn_ < *_seg'h_.' Cf. also the discussion by Klingenschmitt, _Das Altarmenische Verbum_, 168 f., note 14.

Kent, *Lg*. 17, 190 ff., Messing, *SSP*, 201 ff., Polome, *RBPhH* 30, p. 465.[170]

§ 75 According to the 'classical' doctrine, the parent IE language had a tetradic plosive series for each place of articulation, e.g. **t* : **d* : **th* : **dh*. The *tenues aspiratae* (**th*, etc.), however, only are securely attested in Indo-Iranian. Meillet's hypothesis (*Esquisse*, 34f., cf. Godel, *Introduction*, p. 74) according to which Armenian *pʿ*, *tʿ*, *x* reflect IE **ph*, **th*, **kh* is built on scanty and controversial etymological material. Thus, Meillet's attempt to equate e.g. Arm. *pʿayl* 'brilliance', *pʿalpʿali-* 'shine' with Skt. *phalgú-* 'reddish, red', or Arm. *ortʿ* 'calf' allegedly from **porthu-* with Skt. *pr̥thuka-* 'Kind, das Junge eines Tieres', has been adequately disposed of by Klingenschmitt, *Das Altarmenische Verbum*, pp. 168 and 102f. (with further references). Ibid., p. 169, Klingenschmitt takes the *x* of Arm. *cʿax* 'branch' (: Skt. *śā́khā-* 'branch', OCS *soxa* 'Hakenpflug') to represent a pre-Armenian *tenuis aspirata kh* from an IE cluster ***kH_2, which, however, remains unverifiable. It seems likewise doubtful whether Slavic *x* reflects IE **kh*, see W. Thümmel, *MSS* 21, 71 f., cf. Arumaa, *Urslav. Gramm.* II, p. 104. In the case of Greek, the only example of any plausibility is the 2 sg. perfect ending *-stha* (e.g. in *oîstha* 'thou knowest'), which may ultimately, however, go back to **-sta* with analogical aspiration, see Cowgill, *EvfL*, 171 ff. (**st*-endings are attested by e.g. Hitt. _pa-is-ta_ 'thou gavest', Lat. _odisti_, Goth. _saisost_,[171] etc.).[172]

---

[170] According to B.A. Olsen, *The Proto-Indo-European Instrument Noun Suffix *-tlom and its Variants*, 1989, 38, the sequences *-H_1-*t*- and *-H_2-*t*- gave an IE voiceless aspirate **-th-*, e.g. **ple*H_1*-tu-* > **plēthu-* in Gk. *plēthū́s* and Lat. *plēbēs* (< **plẹ̄þw-V-*) 'multitude', **gʷa*H_2*-tu-* > **gʷāthu-* in Avest. *gāϑu-* 'throne'. Olsen, ibid. 38, describes the phonetic treatment seen in **ple*H_1*-tu-* > **plēthu-*, etc., as a 'metathesis *-h_1-/-h_2- + -*t*- > *-t^h- ...' If so, one would have expected **ple*H_1*tu-* to yield **plethu-*: once the alleged metathesis had changed **ple*H_1*tu-* to **plet*H_1*u-*, the *H_1- could, of course, no longer cause the radical vowel (**e*) to undergo compensatory lengthening. In *Fachtagung* IX, 274, Olsen—not very convincingly—tries to explain away this difficulty by assuming that 'later analogical levelling has blurred the pattern so thoroughly that we have to operate with at least three chronological layers (and four different reflexes), which probably all existed, be it as archaisms of different age or as productive formations, at the time of the proto-language...' Cf. also Olsen, *Festschrift Rix*, 369. For a rejection of Olsen's metathesis hypothesis see also J.A. Harðarson, *HS* 108, 1995, 223f., n. 51.

Remark: Referring to Leukart's interpretation (_Fachtagung_ V, 182) of the Greek name _Oréstēs_ as an original compound of the shape *_ores-stā-s_ 'auf den Bergen seinen Standort habend, in den Bergen lebend', M. Peters, _Sprache_ 35, 1991-1993, 138, reconstructs the following Proto-Gk. variant stem forms of _Oréstēs_: nom. acc. _Orestā-_ (< *°_steH_$_2$-): oblique cases *_Orest_^{h}- with *-_t_^{h}- < Early Proto-Gk. *-_tH_$_2$- in gen. *-°_stH_$_2$-_ós_, dat. *-°_stH_$_2$-_éy_. The *-_t_^{h}- in question is supposed to have left a vestige in the names _Oréstheion_ and _Orestheús_. However, as long as the postulated oblique stem form *_Oresth-_ of the personal name _Oréstēs_ remains unattested, the probative force of _Oréstheion_ and _Orestheús_ as evidence for Proto-Gk. *_t_^{h} < *_tH_$_2$ likewise remains _nil_. In _Miscellanea linguistica Graeco-Latina_, ed. L. Isebaert, 1993, 85-113, Peters quotes Gk. _katharós, kotharós_ 'pure' as a further piece of evidence for a Gk. _th_ of 'laryngeal' origin: _katharós_ < *_k'ṛtH_$_2$-_ró-_ = Vedic _śithiráḥ_ 'loose, slack' < Indo-Ir. *_śṛth-irá-_ (cf. _śrathnāti_ 'becomes slack'). This 'equation' being based on two unproven presuppositions, i.e. 1) dissimilation of _r_ ..._r_ > _Ø_ ... _r_ in Greek, and 2) development of *_tH_$_2$ into Gk. _t_^{h}, is—despite Mayrhofer, _EWAIA_ II, 636—nothing but pure conjecture.

If *_th_, etc. are excluded from the original IE plosive system, we are faced with the difficulty pointed out by R. Jakobson, _PICL_ 8, p. 23, that a triadic series *_t_ : *_d_ : *_dh_ is typologically exceptional: 'no language adds to the pair /t/—/d/ a voiced aspirate /d^h/ without having its voiceless counterpart /t^h/.' The so-called Gamkrelidze-Hopper theory[173] avoids this typological problem[174] by assuming that the IE plain voiced plosives (**d*, etc.) were glottalized (**t'*, etc.): in this hypothesis, the triadic series **t* : **d* : **dh* is replaced by **t(h)* : **t'* : **d(h)*; according to Gamkrelidze, the aspiration of **t(h)* and **d(h)* is optional.

---

[171] For a different (but unconvincing) explanation of the _st_-ending in Germanic, see A. Sihler, _MSS_ 47, 193 ff., especially p. 197.

[172] An unverifiable analysis of Gk. _kephalē_ 'head' is proposed by Hamp, _RL_ 6, 1974, 234f. and n. 1, _Glossologia_ 9-10, 1990-1991, 7f.): _kephal-_ < *_kepH-l-_ where *_kepH-_ is supposed to be to Lat. _cap-_ in _caput_ as Gk. _méga_ is to Lat. _magnus_. According to Hamp (_Glossologia_ 9-10, 7) we must posit an IE heteroclite *_kepH_ in alternation with *_kepn-_: the latter form is said to survive in MlW _cun_ 'lord, chief, ruler' < *'head'. However, IE *_kepn-_ would probably give (Insular) Celtic *_ken-_ (with loss of *_p_), cf. OIr. _tene_ 'fire' < *_tepn-_ (Avest. _tafnō_), cf. Brit. _tan_ 'fire' (< ? *_tpn-_) and see Thurneysen, _Grammar of Old Irish_, 140.

[173] Cf. the bibliography given in Mayrhofer, _IdgGr._ 1, p. 92.

A triadic system *t* : *d* : *dh* is unquestionably rare in the world's languages, but it has been shown to occur in Kelabit, an Austronesian language spoken in the high plateau around the headwaters of the Baram river, see R.A. Blust, A Double Counter-Universal in Kelabit, *Hawaii Working Papers in Linguistics*, vol. 5, nr. 6, 1973, 49-56. Here, in the dialect of Bario, *dh* : *gh* : *bh* are 'voiced at the onset, and unvoiced just prior to, during and just following the release of the constriction.' (ibid. 52). Blust's phonetic notation of these obstruents with mixed voicing is [*dtʰ*] [*gkʰ*] [*bpʰ*] (ibid. 54). Referring to Peter Ladefoged and Ian Maddieson, *The Sounds of the World's Languages*, pp. 63, 80 f., my colleague Rolf Theil Endresen points out to me that clusters involving obstruents—both stops and affricates—with mixed voicing in the same syllable also occur in Zhu|'õsi (a Khoisan language spoken in Namibia and Angola).

As the case of Kelabit shows, the triadic system **t* : **d* : **dh* generally posited for the parent Indo-European language, may reflect a linguistic reality.[175] The combined weight (1) of the existing Kelabit linguistic evidence and (2) of arguments drawn from critical, theoretical discussions such as M. Job's Sound Change Typology and the 'Ejective Model' (pp. 123-136 in: *The New Sound of Indo-European*), and R. Woodhouse's Some criticisms of the Gamkrelidze/Ivanov glottalic hypothesis for Proto-Indo-European, *HS* 108, 1995, 173-189, has led the present author to reject the 'glottalic' reinterpretation of the IE plain voiced plosives.[176] Referring (1) to languages in which contrasts of voicing are known, but in which /b/ is absent, and (2) to languages in which *b* 'appears to be a limited-context allophone of *p* or *w* ...', R. Woodhouse, ibid. 180, shows that typology does not force us to explain

---

[174] Charles Schleicher, A Chronology of the PIE. Obstruents, *IF* 99, 1994, 21-40, makes the following interesting point (p. 22): 'The glottalicists' mistake was that they interpreted synchronic typology as binary: i.e. a language is either typologically correct or incorrect and subsequently a reconstruction which is typologically correct is right while a reconstruction which is typologically incorrect is wrong. This ignores two facts: first, that languages and language reconstructions meet up to typological expectations at varying degrees from nearly impossible to nearly perfect and everywhere in-between; second, that languages are constantly changing and therefore must pass through typologically unusual phases at some point, however briefly. A language does not change by resting in a typologically perfect state and then suddenly snapping into another typologically perfect state.'

[175] T.V. Gamkrelidze and V.Vs. Ivanov, *Indoevropejskij jazyk i indoevropejcy* I, 1984, 12, n. 1, try to explain away Blust's Kelabit evidence by assuming that /bʰ/, /dʰ/, /gʰ/ which they interpret—not as voiced aspirates, but as phonemically 'half-voiced' *b*, *d*, *g*—have two allophones, i.e. [*b*], [*d*], [*g*] and [*-bpʰ-*], [*-dtʰ-*], [*-gkʰ-*] (in the position after a stressed vowel); but, as my colleague, Professor R. Th. Endresen points out to me, [*b*],

---

[*d*], [*g*] occur only in an environment where the opposition between /b^h/, /d^h/, /g^h/ and /b/, /d/, /g/ is neutralized (i.e. before a stressed vowel or word boundary, see Blust, ibid. 54); outside the neutralization position the phonemes /b^h/, /d^h/, /g^h/ are always realized as [*bp*^{h}], [*dt*^{h}], [*gk*^{h}]: in other words, only the (underlying) morphophonemes //b^h//, //d^h//, //g^h// are realized phonetically as both [*bp*^{h}], [*dt*^{h}], [*gk*^{h}] and [*b*], [*d*], [*g*].

[176] W. Cowgill, *Kratylos* 29, 6, thinks that a *pre-Indo-European* system *_t(h)_ : *_t'_ : *_d(h)_ 'shifted-for reasons that so far are unfathomable—to a highly unstable PIE system *_t_, *_d_, *_dh_, which everywhere was replaced before our earliest written documents by a more stable configuration: in Indo-Iranian, by the addition of voiceless aspirates; in Greek, and, in the first instance, Italic, by devoicing of the aspirates; in Celtic, Balto-Slavic, Albanian, and (probably) Anatolian, by the loss of distinctive aspiration; in Tocharian, by the merger of all articulation types; and in Germanic and Armenian, by more complex remodelings, beginning probably with shift of *_t_ to *_th_ and of *_d_ to *t*. The weakness of this hypothesis is of course the utter lack of explanation why a presumably stable pre-IE configuration should have been replaced in PIE by an extremely unstable one; perhaps it would be profitable to put some effort into seeing whether an explanation for such an unlikely development can be found.' For critical discussions of the Gamkrelidze-Hopper reconstruction, see also M. Job, Did Proto-Indo-European have glottalized Stops?, *Diachronica* XII:2, 1995, 237-250; cf. Szemerényi, *TPS*, 1985, 9ff. (with further references); Eichner, *Beiträge zur Namenforschung* 19, 1984, 450f.; M.E. Huld, On the Unacceptability of the Indo-European Voiced Stops as Ejectives, *IF* 91, 1986, 67ff.; A. Pisowicz, Objections d'un arménologue contre la théorie glottale, *Folia Orientalia* Vol. XXV, 1988, 213ff. (The First International Colloquium on the Dead Sea Scrolls, ed. Z.J. Kapera, Polska Akad. Nauk. Komisja Orientalistyczna); G.B. Djahukian, A Variational Model of the Indo-European Consonant System, *HS* 103, 1990, 1-13; J.E. Rasmussen, Die Tenues Aspiratae: Dreiteilung oder Vierteilung des indogermanischen Plosivsystems und die Konsequenzen dieser Frage für die Chronologie einer Glottalreihe, *The New Sound of Indo-European*, pp. 153-176; H.H. Hock, *Principles of Historical Linguistics*^{2}, 626.

the rarity of the IE phoneme /b/ by assuming that it was really an ejective (*p'*).

§§ 76-77 On some mediae aspiratae in Indo-Iranian

§ 76 Kuryłowicz, *ÉI*, 53f. (cf. Cuny, *Revue de Phonétique* 2, 118 ff.) cites the following examples as evidence for a specifically Indo-Iranian development of the clusters *b + *H*, *d + *H*, *g + *H* into *bh, dh, gh*:

Skt. *mahā́-* 'great' = Gk. *mégas*, Goth. *mikils*, etc.
Skt. *duhitā́* 'daughter' = Gk. *thugátēr*, Goth. *dauhtar*, etc.
Skt. *ahám* 'I' = Gk. *egō*, Lat. *ego*, Goth. *ik*, etc.
Skt. *hánu-* 'jaw' = Gk. *génus*, Goth. *kinnus*.

The *h* (< *g'h) of Vedic *mahā́-* may have arisen in the weak cases (e.g. gen. sg. *mahás* < *meg'h-é/ós < *meg'H$_2$-é/ós) from where it would have penetrated into the strong forms (for original *meg'eH$_2$-). The European languages show the reflexes *b, d, g* of the earlier clusters *b + *H*, etc., cf. Gk. *mégas* and Goth. *mikils*.[177]

Pedersen, *Hittitisch*, 36f., takes the *-kk-* of Hitt. *me-ik-ki-is* 'many, much, etc.' to come from *g' + *H* by assimilation:

> 'was aus *g'H in den altbekannten Sprachzweigen ausserhalb des Indisch-Iranischen lautgesetzlich geworden wäre, lässt sich streng genommen nicht beweisen. Im Hittitischen ist aber ein Zusammenfall von *g'H* mit *g'h* nicht eingetreten; das *H* ist als selbständiger Laut

---

[177] According to a different proposal by E.P. Hamp, *Festschrift K. H. Schmidt*, 36f., the word for 'big, great' (Gk. *mégas*, etc.) belongs to the class he labels 'laryngeal heteroclite'. Thus, we would have here inanimate nom. acc. *még'-H$_2$: oblique cases *mg'-n- (of which Lat. *magnus* is supposedly a vestige), and a derivational formation marked with *-l-, cf. *meg'-l- in Goth. *mikils*, Gk. *megal(o)-*. To my mind, however, Lat. *magnus* does not provide conclusive evidence for Hamp's reconstruction of an IE paradigm (strong cases) *még'-H$_2$ ~ (oblique stem) *mg'-n-: IE may once have possessed an *l/n-paradigm of the shape (strong cases) *még'-l ~ (oblique stem) *m(e)g'-n- , cf. e.g. the *l/n-paradigm of 'sun'.

> bewahrt geblieben, bis schliesslich durch Assimilation *-kk-* entstanden ist; so ist die dem ved. *mahī* entsprechende Form schliesslich zu *me-ik-ki-is* geworden' (p. 36).

How the *-kk-* of *mekk-i-* should be interpreted phonologically remains undecided, however.[178]

Taking, doubtless correctly, Hitt. *mekk-i-* to come from IE $*még'H_2$*-i-*, other scholars assume a preform **meg'H-i-* for Ved. *máhi* 'greatly, very', cf. Szemerényi, *KZ* 73, 192 f., note 1 (with references); cf. however, Mayrhofer, *IdgGr.* 1, 138f. Hitt. nom. acc. sg. *mek* (*me-e-ek*) 'much' comes from $*még'H_2$ (with loss of the word-final 'laryngeal', see Melchert, *AHPh.*, 87). A different, graphemic, explanation of the *-kk-* of *mekki-* is given by Kuryłowicz, *PICL* 8, p. 221. Cf. also Winter, *PICL* 8, p. 251.

Assuming that a corresponding sequence $*H_2 + g$ yielded Hitt. *kk*, Eichner, *MSS* 31, p. 71 (cf. *Fachtagung* VI, 128f., note 41), takes Hitt. *sakki* 'knows' to represent an old perfect $*sóH_2ge + y$ 'hat aufgespürt' from the IE stem $*seH_2g$-, seen in Goth. *sokjan* 'seek', Lat. *sagio*, etc. This *ad hoc* assimilation, however, is rightly rejected by Melchert, *AHPh.*, 69, who follows those who derive *sakki* from the root **sek-* 'cut'. For Lindeman, *Triple representation*, 56, the Hittite verb in question, the ablaut of which (sg. *sakk-* : pl. *sekk-*) remains unexplained, has no clear etymology.

Remark: The meaning 'many, much' of Hitt. *mekkis, mekki* is no sufficient reason for doubting the etymological connection of this word with Gk. *mégas* 'large, great', etc., see particularly Borgstrøm, *NTS* 20, 365 ff.

As older **g'h* gives Luwian *zero* between vowels (e.g. Luw. *tiyamm-i-* < **dheg'hom-*, Anatolian **degam* = Hitt. *te-e-kán* 'earth', see Laroche,

---

[178] Melchert, *AHPh.*, 76, pointing to the absence of illustrative examples in the alphabetic languages, writes: 'Given the evidence that $*h_2$ is voiceless, I prefer to assume that the stop becomes voiceless by regressive assimilation and $*h_2$ is then lost as usual between stop and vowel... The alternative assumption of progressive assimilation to a geminate stop ... cannot be entirely ruled out.'

BSL 58, p. 79),[179] Luwian _maya/i-_ 'nombreux' attested in _mayassis lalis_ 'langue de la foule' (Laroche, ibid., 78f.), may reflect earlier _*ma(g)-i-_ < _*meg'h-i-_ < _*meg'H-i-_. Consequently, it would seem that _*g'_ + _H_ fell together with IE _*g'h_ in Luwian as in Vedic. For a different, and to my mind less plausible, interpretation of Luw. _mayassa/i-_ see Melchert, _AHPh._, 255, _Cuneiform Lexicon_, 146, who takes it to be etymologically connected with the root of Hitt. _mayant-_ 'young man, man in the prime of life, grownup; mature' (supposedly from IE _*mo_H_1_yo-_). For Tocharian A _māk_, B _māka_ 'viel', see Krause-Thomas, _Tocharisches Elementarbuch_ I, § 24, 1 (_māk-_ < _*mag-_, cf. Lat. _magnus_).

§ 77 An IE preform _*_H_1_eg'-He/om_ (with the particle _*-He/om_ seen in Lat. _id-em_, Skt. _ay-ám_, etc.) is assumed for Skt. _ahám_ 'I' by Kuryłowicz, _ÉI_, p. 53. Cf. Hoenigswald, _EvfL_, p. 95, Gamkrelidze, _Laringal'naja Teorija_, p. 62. The _-kk-_ of Hitt. nom. _uqqa, ugga_ was frequently seen as a parallel to the _-kk-_ < _*g_ + _H_ of _mekki-_, cf. Szemerényi, _BSOAS_ 27, p. 158, Mayrhofer, _Sprache_ 10, p. 195, note 91, Winter, _PICL_ 8, p. 251 and Borgstrøm, _NTS_ 20, p. 365. However, the Hitt. form of the 1 pers. sg. nom. is _ug (ú-uk)_ (for earlier _*eg_?, see Benveniste, _HI_, p. 73).[180] For the distinction between Hitt. _ug-a_ 'I however' (with an adversative particle _-a_) and _ugg-a_ 'and I' (with the particle _-a_ 'and'), see Ph. H.J. Houwink ten Cate, _Festschrift Otten_, 119ff.

Remark 1: Polomé, Reflexes of Laryngeals in Indo-Iranian, p. 236, thinks that the _-h-_ in _ahám_ 'can hardly be dissociated from the _-h-_ of its dative _máhyam_, which has a parallel in Lat. _mihi_, both pointing to a PIE form with /g^h/...'

For Skt. _duhitā́_, Avest. _dugδar_ : Gk. _thugátēr_, etc. see the discussion by

---

[179] The IE nom. sg. of 'earth' can be reconstructed as _*dheg'hōm_, see Starke, _StBoT_ 31, 344 n. 1219. Ibid. p. 99, Starke takes the stem of HLuw. _takami_ 'earth, country' t reflect _*dagm-_ < IE oblique stem */dhg'hm-/. Melchert, _AHPh._, 236, however, take _tiyammi-_ to come from a PAnat. loc. _*dg'ém(i)_ (??).

[180] Melchert, _AHPh._, 87, deriving Hitt. _ug_ from earlier _*eg'_H_2 with regular loss of t word-final 'laryngeal', thinks that the source of the _u_-vocalism of _ug_ is the 2 sg. prono which he reconstructs as PAnat. _*tū_.

Winter, _EvfL_, 108ff., cf. now Mayrhofer, _IdgGr._ 1, 137f.

The equation Skt. _hánu-_ f. = Gk. _génus_ offers particular difficulties, for which see Winter, _EvfL_, 108 f., Polome, Reflexes of Laryngeals in Indo-Iranian, p. 235, Mayrhofer, _IdgGr._ 1, p. 139. For a discussion of a possible connection between Skt. _hásta-_ (m.) 'hand' and Gk. _agostós_, cf. Cowgill, _EvfL_, p. 152, Polomé, op. cit., 234 f. (For a refutation of the views of A. Erhart, Zum IE. Wechsel _Media: Media Aspirata, Sborník Praci Filosofické Fakulty Brněnske University_, A 4, 1955, pp. 5-17, see Polomé, ibid., p. 247, note 21).

Kuiper, _AO_ 20, 23ff., cf. _IIJ_ 18, p. 250, regards the _dh_ of Vedic _sádhiṣ-_, _sadhástha-_ 'place' as a reflex of an earlier cluster _*d + H$_1$_: we would have here an enlargement in _*H$_1$_ of the root _*sed-_ 'sit', i.e. _*sed-H$_1$-es-_ > Skt. _sadhás-_ (vs. _*sed-eH$_1$-s-_ in Lat. _sēdēs_). Another plausible example is Skt. _vadhū-_ 'bride' vs. Lith. _vèsti_ 'lead; marry', OE _weotuma_ 'bride-price', Gk. _éedna_ 'bridal gifts', cf. Winter, _EvfL_, p. 113. Melchert, _StHHPh_, p. 88, note 16, compares the Hitt. verb _huettiya-_ 'pull' whose preform he reconstructs as _*H$_2$wedH$_2$-_ (with _*d + H$_2$_ > Hitt. _tt_ in the same way as _*g' + H$_2$_ > _kk_ in _mekki-_). If this be accepted, the prothetic _a-_ of Hom. _-áednos_ (in _an-áednos_ 'without bridal gifts') < _*awed-_ shows the expected 'vocalization' of an initial 'laryngeal' to _a_ in Greek (cf. § 67 above); the _e-_ of _éedna_ may be due to a later assimilation of the prothetic vowel to the _e_ of the following syllable (cf. §67 above, for _*anegk-_ > _enegkeîn_, and see Melchert, ibid., p. 88). Mayrhofer, _Sprache_ 10, p. 191, however, points to the possibility that 'in der Vorstufe des Arischen oder Indo-Arischen _*wed-_ durch _*weg'h-_ beeinflusst und zu _*wedh-_ umgestaltet werden konnte.'

Remark 2: It is frequently assumed that Skt. _píbati_ 'drinks', OIr. _ibid_, Lat. _bibit_ go back ultimately to a reduplicated present _*pi-pH$_3$-e-ti_ (from a root _*peH$_3$-_), structurally comparable to the one seen in Skt. _tíṣṭhati_, Avest. _hištaiti_, Lat. _sistit_, i.e. _*t/si-stH$_2$-e-ti_: the change of the voiceless _*p_ to _b_ in _píbati_, etc. is attributed to the voicing effect of the distinctively voiced 'laryngeal' _*H$_3$_: _*pi-pH$_3$-e-ti_ > _pi-b-e-ti_, see Benveniste, _Origines_, p. 168. However, one might have expected an assimilation of _*p_ to a voiced _*H$_3$_ to have led to Indo-Iranian _bh_. Cf. the discussion by Martinet, _PICL_ 8, p. 49; Polomé, Reflexes of Laryngeals in Indo-Iranian, 233f. (referring to Winter's suggestion in _EvfL_, p. 109), and see below § 95. For A.R. Bomhard's reconstruction of the root meaning 'drink' as _*poH$_1$-_ (where _*H$_1$_ is defined as a glottal plosive), see _Triple representation_, p. 25, note 17.

Kuryłowicz, _SymbGramm._, p. 96, has proposed a 'laryngeal' interpretation of the Sanskrit sandhi-rule under which _-t a-_, _-t y-_, etc. result in _-da-_, _-dy-_ etc.: we should have here the analogical extension of an assimilation of _*-t_ H_3_e-_ (with a voiced *H_3) to _*-do-_ (> _-da-_). Hoenigswald, _EvfL_, p. 96, is perfectly justified, however, in describing the alleged analogic replacement as 'not particularly plausible'.

Eichner, _Fachtagung_ VI, 146f., n. 69, writes: 'Doppeldeutig bleibt palaisch Adj. Pl. Dat. _malitannaš_ 'honighaltig'. Statt einer dem heth. _militeš-_ analogen Erklärung kann hier die Wirkung von h_3 (_t_h_3 > _d_ wie _p_h_3 > _b_) angenommen werden, denn eine Grundform _+mlit-_h_3_on-_ (→ _*mlidon_) 'honighaltig' mit dem Possessivsuffix _-Hon-_ (Karl Hoffmann, _Aufsätze zur Indoiranistik_ p. 378-383), dessen Laryngal Eric P. Hamp als h_3 identifizieren konnte (_MSS_ 30, 1972, p. 36), erklärt schlagend Bildung und Bedeutung des pal. Adjektivs.' However, Carruba, _StBoT_ 10, 40, maintains—as does Kammenhuber, _BSL_ LIV 28f.—that Sturtevant's rule cannot be 'verified' in Palaic. Lindeman, On some 'laryngeal' reflexes in Celtic, _ZCP_ (forthcoming), argues, however, that Hoffmann's possessive suffix _*-_H_3_on-_ is non-existent.

§§ 78-83 'Hardening' of certain 'laryngeals' to *k* or *g*

§ 78 According to Sapir, _Lg._ 15, 181f., certain IE dorsals originate in combinations of two 'laryngeals' having come into contact with each other in internal position or in external sandhi. Cf. Sturtevant, _Lg._ 16, 273 ff.

There is hardly any absolutely cogent evidence for such a development, cf. the critical discussion by Cowgill, _EvfL_, p. 175, of Sturtevant's attempt to account for the _k_ of Greek aorists and perfects of the type _édōke, héstāke_ (_IHL_, 87 ff.) in this way.

Remark. According to Carruba, _Archivio Glottologico Italiano_, LXVII, fasc. 1-2, 1992, 153-167, the _-k-_ found in the aorists _thêke, dôke, hêke_, which he takes to be old stative _e_-full grade perfects, originated in the 1 sg.: thus, _*-_$H_1 + H_2$_-_ and _*-_$H_3 + H_2$_-_ in the 1 sg. perfect forms _*dhe_H_1_-_H_2_a_ (= Hitt. _tehhi_), and _*de_H_3_-_H_2_a_ (= Hitt. _dahhi_) allegedly combined to give the _-k-_ seen in Gk. _thêka, dôka_, cf. Lat. _fēcī_. Gk. _hêka_ is said to reflect a perfect _*ye_H_1_-_H_2_a_ = Hitt. _pehhi_ 'give' (< _pe_ + root _*ye_H_1_-_), see ibid. 163, n. 15. This, however, is wholly gratuitous: as long as the origin of the Hittite _hi_-conjugation remains undecided, to posit a stative _e_-full grade perfect of the shape _*dhe_H_1_-_H_2_a_ to account for Hitt. _tehhi_, the morphologic make-up of which is far from clear, is entirely _ad hoc_. (Hitt. _tehhi, dai_ may represent an enlarged stem _*dhe_H_1_-y-_, cf. Lindeman, _HethIdg._, and see Melchert, _AHPh._, 78). Since, further, there is no shred of evidence available for any 'hardening' of the sequences _*-_$H_1 + H_2$_-_ and _*-_$H_3 + H_2$_-_ to _-k-_ in Anatolian (cf. the cited Hitt. _tehhi, dahhi_), support for Carruba's hypothesis can come only from non-Anatolian

IE linguistic material. However, Carruba does not consider the possibility that all the different IE 'laryngeals' underwent syncretism under one colour in non-Anatolian Indo-European (see below § 97). Consequently, if sequences such as _*-H_1 + H_2-_ and _*-H_3 + H_2-_ had given non-Anatolian IE _*-H+H-_ by syncretism of the 'laryngeals' under one colour, we cannot very well regard a non-existent non-Anatolian IE 1 sg. perfect of the shape _*dheH_1-H_2a_ as the preform of Gk. _thêke_.

§ 79 However, Sapir's idea of a 'hardening' of certain 'laryngeals' to _k_ should, perhaps, not be excluded _a priori_: in a few cases it seems to provide a reasonable explanation for some troublesome initial _*k_'s alternating with _zero_ in etymologically related word-forms. Thus, the initial dorsal of the feminine nouns Lat. _costa_ 'rib' and OCS _kostь_ 'bone' which can be connected etymologically with Hitt. _hastai_ 'bone', Gk. _ostéon_ 'id.' (< _*H_3est-_, §27), may have arisen from the contact of the final _*-H_2_ of the nom. sg. of a thematic adjective immediately preceding the substantive _*H_3est-_, i.e. schematically _*...eH_2 H_3est-_ > _*...ā kost-_, see Martinet, _BSL_ 51, p. 56, _PICL_ 8, p. 51, Ivanov, _VMU_ No. 2 (1957), p. 29. Lindeman, _SL_ (1963), 91 ff., basing himself on Martinet's suggestion of an alternation _*kost-/*H_3ost-_ (attested by Lat. _costa/os_), takes the Germanic verb _*hauzjan-_ 'hear' to go back to IE _*kows-(yé/ó-)_ alternating with the _*H_3ews-_ seen in Gk. _oûs_ 'ear', etc. The late Borgstrøm suggested a similar origin for Gk. _akoúō_ 'hear': pointing to the possibility of a 'fausse coupe' (as in the nom. pl. of the indefinite pronoun Gk. _átta (hopoîa ssa > hopoî' ássa_, see Chantraine, _Morphologie historique du grec_, p. 130), he proposed a reconstruction of the type _*k^{w}yáH_2 H_3owsyesi_ 'what hearest thou?' > _*k^{w}yá kousyesi_ (cf. Goth. _hausjan_) or > _*k^{w}y' ákousyesi_ (cf. Gk. _akoúō_). The accent of the Gmc. stem _*hauz-jan-_ (< _*kows-yé/ó-_), however, offers some difficulty for this hypothesis. Admittedly, the lack of any clear evidence for such a development (of _*-HH-_ into _-k-_) in internal position makes the proposed explanations of Lat. _costa_, Goth. _hausjan_, etc. seem quite disputable, cf. Polomé, _EvfL_, p. 40 (with further references).

§ 80 Martinet, _BSL_ 51, 42ff., pointing to the 'hardening' of the Gmc. fricative *χ (cf. Germ. _sechs_) in Eng. _six_, Dan. Norw. _seks_, tries to show that an IE 'laryngeal' in the position before _s_ may in some cases have developed into _k_. Thus, the _k_ of a series of nominal formations in _-k-_,

-ko-, -kā- allegedly arose from the combination of the final ‘laryngeal’ of the noun stem with the *-s* of the nom. sg.: Lat. *audāx* (< *-eH_2-s), Gk. *néāks* ‘young man’, OCS *novakъ* ‘le nouveau(-venu)’; cf. further Lat. feminine nouns in *-trīx*, OCS *-ica*. Another example would be Lith. *žùkmistras* ‘Fischmeister’, OPruss. (acc. pl.) *suckans* vs. Gk. *ikhthū́s*; cf. also Arm. *jukn* ‘fish’, and see Winter, *EvfL*, 108 f.

While some scholars regard Martinet’s hypothesis as well-founded (e.g. Watkins, *EvfL*, 181 ff., Winter, *EvfL*, 104ff. and *PICL* 8, p. 60), Cowgill, *EvfL*, p. 176, finds it unconvincing for the very good reason that the only example quoted by Martinet of a case where *k* before *s* alternates with recognized ‘laryngeal’ reflexes in other positions, [i.e. Lat. *senex: senātus* (*seneH_2-)], remains disputable. As Szemerényi has shown, *AION Sezione Linguistica* 2 (1960), p. 10, *senex* may well contain an old *k-suffix (< *senekos, parallel to *iuuencus*).[181]

§ **81** For a case like OCS *rěka* ‘river’ vs. Lat. *rīuos, rīuus* ‘a brook’ Martinet, *Word* 12, 1 ff., assumes a particular *k*/*w*-alternation: we would have here the ‘laryngeal’ *A^w (i.e. *H_3) ‘hardened’ to *k* before *s*, but having ‘exuded’ a glide *w* in prevocalic position. Thus, Lat. *rīuus* reflects *riA^w-os, whereas OCS *rěka* is said to go back to *roik- < earlier *roiA^w- with ‘hardening’ of the stem final *-A^w- to *k* before the *s* of an orig. nom. sg. form *roiA^w-s. The *-w- of *rīuus* is supposed to find a parallel in the *v* of Skt. pres. *riṇvati* < *ri-n-A^w-e-ti, a secondary thematization of *ri-n-éA^w-ti > Skt. *riṇā́ti* ‘flows’.

Another example is Lat. *uīuos* ‘alive’ < *g^wiA^w-os vs. OE *cwic, cwicu*, taken to reflect *g^wiks < older *g^wiA^w-s. Polomé, *EvfL*, p. 40, raises the following objection against Martinet’s explanation of OE *cwic*, etc.: ‘As for the Germanic evidence for /k/ from PIE /A^{w}s/, if this change actually occurred in predialectal IE, as the adduced Latin, Greek, Sanskrit and Balto-Slavic evidence undoubtedly implies it, one wonders why this pre-Gmc. /k/ did not undergo the Germanic consonant shift.’ Cf. also Polomé, *Mélanges F. Mossé*, 392 ff.

---

[181] For Lindeman’s speculation on the possible ‘laryngeal’ origin of the *g* of Lat. *sang(uen)* ‘blood’ (: Hitt. *eshar*, gen. sg. *ishanas*), see *BSL* LXXXI, 1986, p. 373, note 19.

In § 43, *Remark*, we have characterized the assumption of a regular change of **H*$_3$ to **w* in intervocalic position as disputable. Consequently, we regard the proposed alternation *k*/*w* (< *-*H*$_3$*s*/-*H*$_3$*V*-) as unconvincing.[182]

§ 82 Some scholars take Germanic -*g*- and -*kk*- in certain forms to reflect IE clusters of the type *-*Hw*-, *-*Hy*-. Thus, Lehmann, *PIEPh.*, 47ff., cf. Lehmann, *Kuryłowicz Memorial Volume* I, 6ff., thinks that IE *-*Hw*- could give Gmc. -*g*- or -*k(k)*-. Austin, *Lg.* 22, 109ff., according to whom the accent may have been decisive, posits IE *-*Hy*- and * -*Hw*- > Gmc. -*k*-. Despite Winter, *EvfL*, p. 198, examples like OE *naca* 'boat', OS *naco* (vs. Lat. *nāuis*, etc.) seem disputable for the reason that the expected outcome in Germanic of IE **néH*$_2$*w*-, i.e. **nōw*-, survives in OIcel. *Nóa(-tún)*, cf. OWN *nór* orig. 'boat'. See Polomé, *RBPhH* 31, 537 ff., *Mélanges F. Mossé*, 387ff., E. Seebold, *IF* 87, p. 178. Discussing anew the adduced evidence Polomé now insists (*Laryngaltheorie*, 404) that there is 'no compelling evidence to ascribe the development of Gmc. -*k*- to the presence of a laryngeal in the vicinity of -*w*- ...'.

Cowgill, *EvfL*, p. 143, note 1 (and p. 170, note 58; p. 178, note 72), tentatively accepting the idea that at least one of the IE 'laryngeals' became *k* in Germanic before *w*—under conditions that remain unknown—, writes: 'The Germanic Lautverschiebung suggests that this *k* is from **g*, which in turn is most plausibly from a voiced spirant, [γ] or [γ^w].' (p. 143, note 1). Thus, we would have e.g. IE **g*^{w}*iH*^{w}*wós* > pre-Gmc. **g*^{w}*igwós*, whence, according to Cowgill, Gmc. **kwikwaz*, OE *cwic, cwicu*, OHG *quec*, OIcel. *kvikr*, etc.[183] The Gmc. duals **unkiz* and **inkwiz*, seen in Goth. (dat. acc. *ugkis, igqis*, etc.) are said to be from **nHwé* and **uHwe* (cf. Skt. dual *ā̆vā́m, yuvā́m*).[184] For Austin's later hypothesis (*Lg.* 34, 203ff.), according to which the Proto-Gmc. sequences *qy, qw* (< IE **Hy*, **Hw*, where **H* = a glottal fricative or glottal plosive) developed differently throughout the Germanic speaking territory depending on whether the accent preceded or followed, cf. the critical discussion by Lindeman, *Verschärfung*, 29ff.

---

[182] E.P. Hamp, *Glotta* LXVIII, 1990, 211ff., speculates that the Oscan-Umbrian *f*-perfect and the Latin *v*-perfect derive from (1 sg.) *-*Vx*^{w}-*ai*, (3 sg.) *-*Vx*^{w}-*ei* from older *-*Vxw-ai*, *-*Vxw-ei* ($x = H_2$) where *w* is the suffix *u* seen in pre-Italic (1 and 3 sg.) **(g'e-)g'noH*$_3$-*u* = Vedic *jajñau*. Morphologically, however, the postulated *-*Vxw-ai*/*ei* > *-*Vx*^{w}-*ai*/-*ei* is nothing but an arbitrary construction based on a Vedic formation the -*u* of which is of unknown origin, cf. above § 37, n. 40. The proposed phonetic development of *-*Vxw-ai*/*ei* into Italic *-*Vx*^{w}-*ai*/-*ei* finding no precise parallel in Italic linguistic material, is likewise unjustifiable.

[183] E. Seebold, *IF* 82, p. 177, posits an IE variant **g*^{w}*ei-g*^{w}- (~ **g*^{w}*ey-H*$_3$-) for forms like Lat. *uixi*, Latv. (dial.) *dzîga* 'life', OE *cwic*, etc.

For a critical and thorough discussion of the Germanic evidence, see now E. Seebold, Der Übergang von idg. *-w-* zu germ. *-k-* und *-g-*, *IF* 87, 1982, pp. 172-194. According to Seebold (ibid., 182f.), 'Indogermanisch *-w-* wird in den germanischen Sprachen zu *-g-*, das durch die Lautverschiebung weiter zu *-k-* verschoben wird, nach Diphthongen, Liquiden und Nasalen, wenn auf das *-w-* ein *-u-* oder ein silbischer Liquid/Nasal folgt.' (Cf. also Winter, *EvfL*, p. 198, for Gmc. *-g-* from 'any intervocalic **w* adjacent to *u*, ...'). Seebold finds support for this change of **w* to **g* > *k* in old examples like IE **daywḗr* (Skt. *devā́* 'a husband's brother', Gk. *dāḗr*, Arm. *taygr*, Lith. *dieverìs*) > Gmc. **taikur-* (OE *tācor*, OHG *zeihhur*), or pre-Gmc. **spoyw-ḷ-* (cf. Gmc. **speiw-a-* 'vomit') > Gmc. **spaikul-*'spittle' seen in OHG *speihhilla, -ulla*, cf. Goth. *spaiskuldra* 'ptúsma' (dat. sg.), OS *spekaldron* (dat. pl.), OHG *speihhaltra*. Ibid., 179ff., Seebold takes the Gmc. dual forms **unkiz* and **inkwiz* to represent, in the final analysis, reduplicated forms (?). At a later stage, after the Gmc. 'Lautverschiebung', *-w-* becomes *-g-* between *u* or *i* (*e*) and Gmc. *u* in Westgermanic according to Seebold, cf. OE *nigun* '9', OS *nigun* vs. Goth. *niun*, or OHG *tugund*, OE *dugoþ* < Gmc. **duwṇþi-*, cf. OWN *dyggr*.

Remark: In *Mélanges Grégoire* II, 539 ff. (IV, 669 ff.) Polomé suggested that IE *H_1*w*- and *H_3*w*- had given Arm. *g-*, cf. *gom* 'I am' (§67 above), whereas IE *H_2*w*- had given Arm. *kʿ-*. As Crossland, *ArchLing*. 10, p. 86, points out, there is no good evidence for such a development since initial IE **w*-, unaccompanied by any 'laryngeal', likewise yields *g-* in Armenian. Winter, *EvfL,* 104 f., explains the *k* of Arm. *mukn* 'mouse' (: Gk. *mûs*) and *jukn* 'fish' (: Gk. *ikhthū́s*) as being of 'laryngeal' origin; see further Greppin, *REArmNS* 8, pp. 1-4; Bolognesi, *Bolletino dell'Atlante Linguistico Mediterraneo*, 1976-1977, 200f.; Tumanjan, *VJA*, 1968, 5, p. 61. A non-'laryngeal' origin of the suffix *-kn* of these words was suggested by Lindeman, _First International Conference on Armenian Linguistics, Proceedings_, 1980, p. 62. He thinks that the starting point of this suffix is to be sought in the IE word for 'fish' which seems to have had a variant form _*g'huk-_, seen in Lith. _žùkmistras_ 'Fischmeister', _žùkparnis_ 'Fischhaar', OPruss. (acc. pl.) _suckans_ 'fish' (Fraenkel, _Lit. etym. Wörterbuch_, p. 1323, Specht, _KZ_ 59, pp. 212 and 228 ff.). A preform of this shape would explain the Armenian _jukn_ (which secondarily has adopted the _n_-inflection): IE _*g'huk-_ > pre-Arm. _*ʒhukh-_, whence, by dissimilation of _*ʒh...kh_ to _*ʒh...k-_, _*ʒhuk-_ > Old Armenian _jukn_, gen. sg. _jukan_ (_n_-inflection). Cf. Lindeman, _Triple representation_, p. 39, for a discussion of the Arm. pl. _akanǰkʻ_ (: sg. _unkn_).

---

[184] See also A. Erhart, *Studien zur indoeur. Morphologie*, 1970, 87 ff.

For K.T. Schmidt's unconvincing suggestion (_Laryngaltheorie_, 471-480) of a 'Konsonantisierung' of what he writes as $ə_2$ > _k_ after liquida and nasalis sonans in Tocharian, see the critical discussion by Lindeman, _HS_ 102, 294f.

§ 83 To sum up: the possibility of a 'hardening' of IE 'laryngeals' to _*k_ or _*g_ cannot be totally discarded although no absolutely cogent evidence can be found for such a development. It should also be stressed that the exact conditions under which the supposed 'hardening' occurred have not yet been elucidated.

§§ 84-88 'Laryngeals' in the position between non-syllabics

§ 84 If we are justified in taking the IE 'laryngeals' to have been _consonants_ contrasting with vowels and semi-vowels (§§ 16f., 86f., 90), it follows that the vowel appearing in forms like Skt. _hi-tá- (: dhā-)_, Lat. _dătus_ (: _dāre_), etc. can hardly be interpreted as a reflex of a direct vocalization of the 'laryngeals' in zero grade formations of the type *dh$\underset{\cdot}{H}_1$-tó-, *d$\underset{\cdot}{H}_3$-tó- (: full grade *dheH_1-, *deH_3-).[185] It should be stressed in this connection that the Anatolian *-h(h)-* is never 'vocalized' in interconsonantal position, cf. Sturtevant, *IHL,* §75a, who quotes the following examples: Hitt. *sanhhzi, parhhzi* 'drives', *walhhzi* 'strikes' (cf. § 41 above). See also Catsanicos, *BSL* LXXXI, 168f., note 273.

---

[185] Lindeman, _HS_ 102, 276, points out that regarding the specification of the major classes of sounds, both Chomsky and Halle, _SPE_, 1968, 302f., and traditional phonetics include fricatives among the true consonants. Phonetically, therefore, it is difficult to see how e.g. a distinctively voiceless fricative consonant could have been 'realized as a vowel' (as assumed e.g. by Eichner, _Laryngaltheorie_, 131). According to Eichner, _MSS_ 31, 86, 'Der Übergang von Hemmlauten zu Freilauten ... ist im speziellen Fall der Laryngale dadurch gegeben, dass bei ihnen die Hindernisbildung im Bereich der Glottis erfolgt.' However, if we follow e.g. J.C. Catford, _Fundamental Problems in Phonetics_, 166f., in defining vowels as central (i.e. median) dorsal approximants, it immediately becomes clear how inadequate Eichner's phonetic observation is. It is important, in this

We choose to adopt the view of Martinet (*PICL* 8, p. 53) who argues convincingly that the source of the *-i-* of Skt. *hi-tá*-and of the *-ă-* in Lat. *datus* may be sought in old sequences of 'laryngeal' and an anaptyctic vowel (i.e. schematically **-əH-* or **-Hə-*).[186] It is also interesting to note that an anaptyctic *a* is inserted between a laryngeal and another consonant at the end of a word in Hebrew, e.g. **yasʿ* (with apocopated ending) > *-yisaʿ* in *wayyisaʿ* 'he looked (at)'. Further, an unstressed syllable closed by a laryngeal is frequently opened by a non-phonemic subsidiary vowel in this language, e.g. **yaʿzúbu* > *ya*^{ʿa}*zoḇ* 'he leaves'; a *full* vowel develops, however, in the corresponding 3 pl. **yaʿzubū́* > *yaʿazḇū́*. It does not seem advisable, however, to speculate too much on the phonetic realization of the IE 'laryngeals' in the position between non-syllabics. We will use a strictly phonemic notation of the type (full grade) */CéH-/ : (zero grade) */CH-tó-/, cf. Kuryłowicz, *Apophonie*, p. 170.

Regarding the theoretical possibility of the occurrence of reduced or ultrashort vowels in clusters of a 'laryngeal' and other consonants, see F. Dell and M. Elmedlaoui, Syllabic Consonants and Syllabification in Imdlawn Tashlhiyt Berber, *Journal of African Languages and Linguistics* 7, 105-130, esp. pp. 115ff., who describe the Tashlhiyt dialect of Berber in which syllabic fricatives and stops are found, e.g. *tħ'ba* (3 sg. f.) 'cover' with a syllabic pharyngeal fricative (' denotes syllabicity), or *tS.bɣ't* 'you painted' where *S* denotes syllabic *s* and the second syllable has a syllabic voiced uvular fricative (pp. 106, 116). According to the

---

connection, to note M. Job's observation, *In honorem H. Pedersen*, 428: 'Für den behaupteten Übergang dreier verschiedener Frikative des hinteren Mund- bzw. des Rachenraumes gibt es meines Wissens keine bislang bekannte typologische Parallele.'

[186] Cf. Martinet, *Phonetica* 1, p. 28, who refers to the French '*e* muet' in clusters like /rsbl/ where /s/ is realized as *sə* (cf. *ours(e) blanc*). Cf. also the interesting discussion of these questions by Crossland, *ArchLing*. 10, 94 ff., Collinge, *ArchLing*. 5, 75ff., and 8, 121 ff., Polomé, *EvfL*, p. 29, note 126 (with further references), Mayrhofer, *IdgGr*. 1, p. 138, and A. Christol, *Phonological Reconstruction*, 27-30.

authors, ultrashort vowels occur at the phonetic level adjacent to voiced consonants and only between consonants that differ in point of articulation. One of their interesting examples is the utterance *txZ.nakk*^{w} 'she stockpiled' /t-xzn=akk^w/ (*Z* denotes syllabic *z* in the first syllable) which in transcription where such ultrashort vowels are noted would be *tx(ə)Znakk*^{w} (p. 127, n. 18). Examples like these are worth bearing in mind when one sees that Beekes, *Laryngaltheorie*, 68, n. 2, rejects the possibility that 'a laryngeal could be stressed' in Indo-European. Cf. Lindeman, *HS* 102, 289.[187]

§ 85 In some languages forms occur which do not display the expected development of an anaptyctic vowel, e.g. Lith. *duktė̃*, Goth. *dauhtar*, Avestan *dugδar*, Arm. *dustr* (gen. sg. *dster*), Gaul *duχtir*[188] 'daughter' vs. Skt. *duhitár-*,[189] Gk. *thugátēr*, Toch. B *tkācer* < IE */dhwgHter-/; Lith. *ántis* 'duck' vs. Lat. *anas*, gen. sg. *anatis* 'duck' < IE */H_2énHt-/. Cf. Martinet's interesting discussion of such forms in *Phonetica* 1, p. 28.

The *-a-* of the **dugatr-* 'daughter' underlying Hierogl.Luw. *twatra-*,

---

[187] Lacking a native speaker, we, of course, know nothing about the occurrence and distribution of possible non-phonemic ultrashort or anaptyctic vowels in an IE sequence such as /CRHC/, cf. Lindeman, *HS* 102, 283f. Hence, phonetic, not phonemic, reconstructions such as *$h_2n_{\text{ə}}h_2t$- and *$s_{\text{ə}}nh_{2\text{ə}}t$-, etc., proposed by H. Rix, *HS* 104, 186ff., in his paper on the Greek word for 'duck' implying a *phonetic distinction* between e.g. [*CR̥HC-*] (with syllabic [*R̥*]) vs. [$C_{\text{ə}}RHC$-] vs. [$CR_{\text{ə}}HC$-] (with reduced vowels of different distribution in the same phonologic environment), have no rightful place in today's Indo-European linguistics, see Lindeman, *IF* 99, 1994, 44f.

[188] *ÉC* XXII, p. 131, and note 42. The fact that 'daughter' is attested as *duχtir* in a dialect (Gaulish) of Continental Celtic does not necessarily imply that 'daughter' may not have been **dugater-* (with *-a-* from the 'vocalized' internal 'laryngeal') in Insular Celtic. It is sufficient to refer to the difference between Skt. *duhitár-* and Avestan *dugδar-* in order to demonstrate that the reconstruction of a *Proto*-Celtic **duχtir* is not inevitable. A preform **dugater-* may well underlie the element *Ter-, Der-, Dar-, Derb-* in women's names in Early Irish as suggested by A.O'Brien, *Celtica* III, 178 f. Cf. Lindeman, *Triple representation*, 36 f., note 26.

[189] For Vedic *duhitár-* see now also Mayrhofer, *Quaderni dell'Istituto di Glottologia* 6, 1994, 201.

Lyc. A *kbatra-*, cf. Luw. **duttari(ya)-*,[190] may have a different origin, see Melchert, *Sprache* 33, 1987, 19f., n. 3, and *AHPh.*, 69, who assumes, doubtless correctly, that the interconsonantal *-*H*- of the IE stem form */dhwgHtr-/ was lost in Proto-Anatolian giving **dugtr-*, whence, by anaptyxis, **dugatr-*.

Certain forms present particular difficulties. Thus, there is no reflex (-*i*-) of any anaptyctic vowel before the endings in the zero grade present forms of *dā-* ‘give’ and *dhā-* ‘put’ in Sanskrit: 1. pl. *da-d-más, da-dh-más*, 2 pl. *da-t-thá, dha-t-thá* vs. Gk. *dí-do-men, tí-the-men.* (Perfect forms like 1 pl. *da-di-má, da-dhi-má* may have -*i*- by analogy, cf. Kuiper, *Sprache* 7, 22f.). For different attempts at explaining such forms, see Kuryłowicz, *Apophonie*, p. 252, Hoenigswald, *EvfL*, 98 f., Kuiper, *Sprache* 7, 22 f.

Lindeman, *IF* 91, 79 ff., reconstructs the non-Anatolian IE 1 pl. pres. forms underlying Vedic *dadhmás* and *dadmás* as */dhe-dhH-més/ and */de-dH-més/, respectively. According to Sievers’ Law, these forms were realized as *[*dhedhHṃés*] and *[*dedHṃés*]).[191] Lindeman thinks that *[*dhedhHṃés*] and *[*dedHṃés*] later gave Vedic *dadhmás* and *dadmás*, by the ‘converse of Sievers’Law.[192] See also below § 87.

Equally problematic are the Gatha Avestan forms *ptā*, a variant of YAv. *pita* ‘father’, dative sg. *fəδrōi*, i.e. *fθrai*, see Kuryłowicz, *IdgGr*. II, p. 225, Mayrhofer, *IdgGr*. 1, p. 138, E. Ravnæs, *IIJ* 23, 247 ff. For Vedic gen. sg. *jánmanas:* nom. sg. *jánima*, etc., see § 102 below.

Meillet, *Esquisse*, p. 42, quoting *dustr*, gen. sg. *dster*, teaches, doubtless correctly, that interconsonantal *ə is lost in an internal syllable in Armenian. De Lamberterie, _REArmNS_ XVI, p. 41, nevertheless thinks that a (preconsonantal) internal IE 'laryngeal' gave Arm. _-a-_ in the position after a resonant, e.g. in the aorist _cnaw_ < _*cinaw_ 'he was born; he generated', allegedly from IE _*g'enH-to_. For a different opinion, see Lindeman, _AAL_ 6, 63 ff., who takes _cnaw_ to represent _*cina-_ (+ the ending _-w_ < _*-to_ ?), an Armenian aorist stem in _-a-_ (< IE _*-ā-_ as e.g. in Lith. 3 sg. _dìrbo_, cf. Godel, _Introduction_, 121) of an IE 3 sg. middle imperfect _*g'enH-e-to_, attested by Vedic imperfect _jan-a-ta_ 'he was born; he generated', 3 pl. _jan-anta_. The Vedic forms are transitive in construction e.g. in RV II, 18, 2 _anyásyā gárbham anyá ū jananta_ 'Als den Spross einer anderen erzeugten ihn andere, ...',[193] X, 123, 7 _nā́ma janata priyā́ṇi_ 'und brachte seine lieben Namen zum Vorschein'.[194] Many Armenian aorist formations come from old imperfects, cf. _eber_ 'carried' < IE _*é-bher-e-t_ = Skt. ipf. 3 sg. _á-bhar-a-t_.

---

[190] For Hierogl. Luw. *tu-wa/i-tara/i-*, see J.D. Hawkins, *KZ* 92, 112 ff. For S.Bugge’s reconstruction (in 1901) of *twatra* as the preform of Lyc. A *kbatra*, see Lindeman, *Triple representation*, p. 56. For ‘daughter’ in the Luwian languages see now F. Starke, *KZ* 100, 243ff., and *StBoT* 31, 347.

[191] Structurally, these forms were exactly parallel to a perfect participle formation of the (schematic) shape *[*Re-RT-uos*] discussed by Schindler, *Sprache* 23, 61. Sievers’ Law can be seen also in Old Hitt. 1 plural *dummeni* (from *da-* ‘take’), written *tu-me-e-ni*, which may represent earlier **duweni* < IE */dH_3-wen-/ = phonetically *[*dH_3-uen-*].

[192] The 2 plural forms, e.g. *dha-t-thá*, may be considered analogical creations after the model of the 1 and 3 (*dádhati*) plural.

Arm. _keraw_, aorist of _utem_ 'eat', may likewise represent an enlargement in _-ā-_ of an imperfect of a thematic present stem *g^w_erH-e-_, still seen in the variant 3 sg. aorist _eker_ (without the enlargement _-a-_). _Formally_, the supposed Armenian indicative stem _*ker-e-_ can be to an IE subjunctive stem *g^w_erH-e-_, attested by the Vedic aorist subjunctive 3 pl. _garan_ (: pres. _girati_ 'swallows'), as the Old Indic (AV) present indic. stem _ána(-ti)_ 'breathes' is to an IE subjunctive stem *H_2_énH-e-_ > Vedic _*ánati_ (: Ved. pres. indic. _áni-ti_ < *H_2_énH-ti_).[195] Similarly, the Armenian aorist _luaw_ (: pres. _lsem_ 'hear') would seem to go back ultimately to a thematic aorist _*é-k'lu-e-t_, cf. Gk. _éklue_, Skt. _śruvam_.

It should be pointed out that Arm. _ałay_ 'grinds' cannot be a direct reflex of an IE athematic present *H_2_élH-ti_ as erroneously taught by Charles R. Barton, _IF_ 94, 1989, 148, n. 42 (and accepted by Mayrhofer, _Kratylos_ 36, 1991, p. 93, n. 13): the _-ł-_ of _ała-y_ presupposes older _*-ln-_ so that we may posit a secondary nasal present _*al-nā-_ for pre-Armenian (of the type seen in _*barjnam_ > _bar̄nam_ 'raise') which has ousted an earlier athematic formation. Also, _ała-_ in _aławri_ 'mill' cannot be separated from the verb stem _ała(-y)_: as is well known, an inherited intervocalic _*-l-_ appears as Arm. _-l-_, cf. e.g. _aliwr_ 'meal' (= Gk. _áleuron_). Linguistically, the equation Arm. _aławri_ 'mill' = Gk. _alétrios_ (for which see e.g. Meillet, _Esquisse_, 142) has little or no probative force. Referring to C. Hubert (in: app. crit. ad Plut. Quaest. Conviv. 693E, 1971) my colleague Nils Berg points out to me that the poor and uncertain attestation of the hapax _alétrios_ makes its very existence in Greek seem doubtful.

---

[193] See K. Geldner, _Der Rigveda_ I, p. 269.

[194] See K. Geldner, _Der Rigveda_ III, p. 353.

[195] See _Triple representation_, 40. Charles R. Barton, _IF_ 94, 1989, 148, n. 42, misrepresents my explanation.

Meillet, _Esquisse_, 74, compares Arm. _arawr_ 'plough' with Lat. _arātrum_ which seems to be built on the stem of _arāre_. The latter is generally explained as a refashioned athematic _*ară-_. Armenian _arawr_, if it is from earlier _*arātro-_, may likewise be built on the stem of a pre-Armenian verb _*arā-_, which, however, was later lost in Armenian.[196]

Remark: Klingenschmitt, _MSS_ 28, pp. 80 and 86, and note 9, teaches that all the 'laryngeals' of different colour have fallen together in _a_ in Armenian initially, medially and finally. For a critical discussion of the linguistic evidence, see Lindeman, _Triple representation_, 38 ff. For Arm. _dalar_ 'fresh, green', see § 102 below.

To what extent and under which conditions an interconsonantal 'laryngeal' was lost in Indo-European remains unknown.[197] Mayrhofer,

---

[196] Lindeman, _Triple representation_, 40, speculates that there may have existed an iterative in _*-ā-_ with zero grade in the root syllable of the verbal stem meaning 'plough', i.e. IE _*_H_2_rH-e_H_2_-ye-_, whence the _*arāye-_ underlying the cited Lat. _arāre_. See Meillet, _Introduction_, 210, for this iterative type in _-ā-_.

[197] The assumption made by Kuryłowicz, _ÉI_, 29, 41 ff., cf. Polomé, _RBPhH_ 30, p. 446, Sturtevant, _IHL_, § 73, of a regular loss of _*H_ between non-syllabic sounds in the parent language, finds no support in the existing material, see Kuiper, _Sprache_ 7, 21 ff. Klingenschmitt, _Fachtagung_ V, 162, n. 22, sees in Gk. optative _-ois_ which he takes to come from older _*-o-y_H_1_-s_, the result of a loss of _*_H_1 in interconsonantal position in Indo-European. However, it is generally assumed, no doubt correctly, that the thematic optative suffix _*-oy-_ represents _*-o-_ (the thematic vowel) + _*-ī-_ (the zero grade of the optative suffix _*-ye_H_1_-_), or, as Cowgill, _EvfL_, 160, says: 'evidently _oy_-optatives were not put together in the dialect ancestral to Greek until _*-iH-C_ had already become _*ī-C_.' For an entirely different explanation of the _oy_-optative see C. Watkins, _IdgGr_. III/1, 226ff., and cf. the objections raised by Kuryłowicz in _Problèmes_, 98.

IdgGr. 1, p. 138 (with references), thinks that a 'laryngeal' disappeared in a sequence '(-)CHCC(-) ... wenn dieser vierfachen Konsonanz der Akzent folgte: wurde in **ph$_2$tēr* der Laryngal als ar. *-i-* fortgesetzt (jungavest. *pita*), so ergab **ph$_2$tr-éi* DatSing altavest. <*fəδrōi*> ...' This seems disputable to me as a form like */pH$_2$tréy/ would have been realized phonetically as **pH$_2$tr̥éy* (in accordance with Sievers' Law).

Consequently, all we can safely say is that we assume the existence of (phonemic) */dhwgHtér-/ etc. for the parent IE Ianguage. Such forms were later subject to different phonetic treatments in different parts of the Indo-European speaking territory.

§ 85 a. We do not know how an IE sequence of the shape */gwerH-t-/ (< √*gwerH-* 'swallow' seen in Skt. *giráti*, *gīrṇá-*, etc.) came to be pronounced **gērt-* (> Lith. *gérti* 'drink', Latv. *dzȇrt*, see above §72) in Balto-Slavic. According to Kuryłowicz, *IdgGr*. II, 318, **gērt-* and similar forms owe their lengthened grade to the loss of a vocalic 'laryngeal': 'Im Balt.-Slaw. ist neben ererbten, aber nicht sicher bezeugten dehnstufigen Diphthongen vor allem mit solchen zu rechnen, deren Ursprung der Synkope eines vokalischen "Laryngals" zugeschrieben werden muss; *eiəT* > *ēiT*; *euəT* > *ēuT*; *eRəT* > *ēRT*; ferner *RəT* > *iRəT* > *īRT*, z.B. lit. *gìrtas* < **g^{u}rəto-*; *pìlnas* < **pləno-* usw.' Phonologically, the suggested development of IE *RəT* into Balto-Slavic *iRəT* (allegedly with a *vocalic* 'laryngeal') > *īRT* is not easily reconcilable with the teaching of § 16 above according to which e.g. IE */g^{w}rH-to-/, the preform of Balto-Slavic **gīrta-*, had a vocalic resonant and a consonantal 'laryngeal'.

It is possible to speculate, however, that an IE sequence such as */gwerH-t-/ was inherited in Balto-Slavic as *[*gerH-t-*] with the consonantal medial 'laryngeal' preserved intact, and that this *[*gerH-t-*] now developed into *[*gerV^x-t-*], the short medial vowel (*V^x*) of which would have arisen by anaptyxis after the loss of the consonant **H* in Balto-Slavic: the postulated **gerV^x-t-* would then have lost its anaptyctic **V^x* giving **gēr-t-* (> Lith. *gérti*, Latv. *dzȇrt*), by compensatory lengthening. It is interesting to note that the supposed Balto-Slavic **gerV^x-t-* would seem to find a close phonologic parallel in Germanic, see the discusssion (below § 103) of PGmc. **anV^x-đ-* 'duck' < IE **H$_2$enH-t-*.

Theoretically, Balto-Slavic **gīrta-* (> Lith. *gìrtas*) might reflect non-Anatolian IE **g*^{w}*r̥̄-tó-* (< **g*^{w}*r̥H-tó-*, see below § 100). Alternatively, one might speculate that **g*^{w}*r̥H-tó-* came into Balto-Slavic as **gr̥H-ta-* with the consonantal stem final 'laryngeal' preserved intact, and that this **gr̥H-ta-* later gave **girH-ta-* > **girV*^{x}*-ta-* with an anaptyctic vowel (*V*^{x}), whence **gīrta-*, by compensatory lengthening.

§ **85 b**. Similarly, the assumption of a compensatory lengthening might explain e.g. Balto-Slavic **kālna-* underlying Lith. *kálnas* 'mountain'. Assuming that the IE preform */kolHno-/ = phonetically *[*kolHn̥o-*] was inherited in Balto-Slavic as **kalHn̥a-*, we may take a step further and speculate that this **kalHn̥a-*, after the loss of the **H*, now gave up its hiatus *([-*n̥a-*])[198] and became **kālna-*, by compensatory lengthening after the loss of the medial syllable. See § 102 b.

§ **86** The anaptyctic vowel development which we assume for a sequence of the type */CHC-/ led to partly different results in non-Anatolian Indo-European. Thus, we find *-i-* in Indo-Iranian in zero grade forms like *hi-tá- (: dhā-* 'put'), *sthi-tá- (: sthā-* 'stand'), aorist *ádita (: dā-* 'give'). All the other languages—with the exception of Greek only—have a vowel *ă*, e.g. Lat. *factus (: fēci)*, *datus* (: *dō* 'give'), Goth. *staþs* 'tópos', Lith. *stataũ* 'place'. Greek, however, has forms of the type *thetós* (: *thē-*), *statós* (: *stā-*), *dotós* (: *dō-*).

It follows from the phonologic discrepancy in question (Indo-Iranian *i : a* in all other languages) that the 'laryngeals' were lost in sequences of the type */CHC-/ at a dialectal stage of Indo-European. Furthermore, there is good reason to believe that the development of an anaptyctic vowel in */CHC-/ occurred at a stage when all the 'laryngeals' of different colour had fallen together phonetically in non-Anatolian Indo-European: the fact that all languages (with the exception of Greek) present only _one_ anaptyctic vowel (Indo-Ir. _-i-_, otherwise _-a-_)[199] speaks in favour of this interpretation. If this be accepted, it follows that the Greek _e_ and _o_ reflexes (_thetós, dotós_) must be analogic in origin. Above (§ 49 a) we discussed the origin of forms like Gk. _wrag(ênai)_, Lat. _ratus_, _laxus_, Goth. _lats_, etc.: if it is true that a form of the shape *_wrăg-_ can only be explained as an analogical creation after the model of *_dhē_ : *_dhă_, *_dō_ : *_dă_, etc., it inevitably follows that zero grade forms such as *_dhă-tós_ (Lat. _fă[ctus]_), *_dă-tós_ (Lat. _dătus_) must once have existed in the IE dialect ancestral to Greek. If so, the attested _the-tós_, _do-tós_ must be considered secondary refashionings in Greek. For participle forms of the shape _rhēktós_ for expected *_wrăktós_ (from *_wrēg-_) see Kuryłowicz, _Apophonie_, 181ff., 203ff.: *_wrăktós_ was analogically reshaped _in Greek_ to *_wrēktós_ after _kleptós_ (< _kléptō_, _eklápēn_) and similar forms. See also Kuryłowicz, _Problèmes_, 181. Bammesberger, _Linguistic Change and Reconstruction Methodology_, ed. Ph. Baldi, Trends in Linguistics. Studies and Monographs 45, Berlin.New York, 1990, 275f., argues that Gk. _tha-m-á_ 'often' reflects directly IE *_dhə-_ > Gk. _thă-_, the regular zero grade of *_dheH_$_1$- 'put', cf. Gk. _thōmós_ 'heap'; for the meaning 'often', cf. Germ. 'häufig'. This analysis, however, is inconclusive since _thamá_ may be from *[_dhH_$_1$_m̥-V-_] with vocalic *[_-m̥-_] (according to Sievers' Law) giving Gk. _-am-_ in the position before a following vowel. It should be stressed in this connection that Mayrhofer's reconstruction (_IdgGr._ 1, 137f.) of 'daughter' as *_dhugH_$_2$_tér-_ with an _a_-colouring 'laryngeal' is based on a circular reasoning: since a full grade in the medial syllable (type *_dhugā-_, *_dhugē-_, etc.) remains unattested, we have no way of knowing the nature of the 'laryngeal' that once existed in the underlying IE form of 'daughter'. Methodologically, to define the 'laryngeal' in question as $*H_2$ solely on the strength of the *assumption* that only $*H_2$ could have yielded the *a* of Gk. *thugátēr* (cf. Gk. *sta-tós* < *stā-*, IE $\sqrt{steH_2\text{-}}$)—which is precisely what Mayrhofer does—is simply to beg the question. As Kuryłowicz, *Apophonie*, 205, n. 50, points out: 'Il va sans dire que les ə isolés, "immotivés", apparaissent en grec comme *a*, ainsi dans *patḗr, thugátēr, méga, kré(w)as, (phéront-)a, (pherómeth-)a*=ind. *pitŕ̥-, duhitŕ̥-, máhi-, kravís-, (bhárant-)i, (bhárāmah-)i.*'

---

[198] For the possible development of IE **o* > Balto-Slav. *a* before the loss of **H* in an internal syllable (e.g. in IE **kolHn̥o-* > Balto-Slavic **kalHn̥a-*) see the discussion by Chr. Stang in the *Ergänzungsband zur Vergleichenden Grammatik der Baltischen Sprachen*, 1975, p. 46. If the explanation proposed here for Lith. *kálnas* be accepted, it follows that the supposed reduction of **kaln̥a-* to **kālna-* must have taken place before the general development of syllabic *R̥* into Balto-Slavic *iR*.

---

[199] In the field of IE studies, Burrow's idea (_TPS_, 1949, 27ff.) that the _i_ in Indo-Ir. forms like Skt. _hi-tá-_ represents IE *_i_ (e.g. *_dhH_$_1$_-i-tó->_ Skt. _hi-tá-_) has found little following. Tischler, _Bono homini donum_, p. 322, teaches that in *_CHC-_ either _a_ or _i_ might be inserted as anaptyctic vowel in Old Indic, e.g. *_mH-tó-_ > *_mHi-tó-_ > _mi-tá-_ (ptc. of _mā-_ 'measure') versus *_trH-tó-_ > *_traH-tó-_ > _trā-tá-_ (ptc. of _trā-_ in pres. _trāyase_ 'rescue'). However, Vedic forms of the type _tīrṇá-_ (< *_tr̥H-nó-_) show the regular development of *_CR̥H-C-_ in Old Indic (cf. § 49 above); _trā-tá-_ contains the same kind of secondary full grade vowel as _prā-tá-_, see § 49, _Remark_. It should be stressed that _mi-tá-_ is analogic after _hi-tá-_ (: _dhā-_) and similar forms: the original */mH-tó-/ = phonetically *[_m̥H-tó-_] could not have given _mi-tá-_ by regular phonetic development.

Remark: According to Kuryłowicz, *BSL* LXXII, 71 f. and *Problèmes*, 179 f., the Greek triple representation of Schwa (*a, e, o*), which is of secondary, analogical origin, is to be placed chronologically after Wackernagel's Law (*Das Dehnungsgesetz der griech. Komposita*). The Law in question reflects a preliterary contraction of -a^x + a^y-, interpreted as elision of a^x plus lengthening of a^y (*a* = any timbre of the triad *a, e, o*). At a prehistoric stage, however, the long (medial) vowels of compounds such as *stratāgṓs* 'commander of an army', *ōmēstḗs* 'eating raw flesh', *megalṓnumos* 'with a great name' may also have been felt to represent *-o + a-* (*stratós, agós*), *-o + e-* (*ōmós* 'raw', *édō*), *-o + o* (*megálo-, ónuma*), i.e. to be the products of a contraction of *a-, e-, o-* respectively with *any* short preceding vowel: *ā* = $a^x a$, *ē* = $a^x e$, *ō* = $a^x o$ (a^x = any member of the triad *a, e, o*). Such long, motivated, vowels (*ā* = $a^x a$ etc.) have been the model on which certain inherited, non-motivated, long vowels (in **stā-* 'stand', **dhē-* 'put', **dō-* 'give', etc.) were decomposed into $a^x a$, $a^x e$, $a^x o$ thus acquiring a quasi biphonemic status parallel to that of the diphthongs $a^x i$, $a^x u$. This changes the old relationship between full grade and zero grade, i.e.

	↓ *ai, ei, oi*	↓ *au, eu, ou*	↓ *ā, ē, ō*
	i	*u*	*a(<ə)*
to:	↓ $a^x i$	↓ $a^x u$	↓ $a^x a$ $a^x e$ $a^x o$
	i	*u*	*a e o*

by the suppression of the a^x. See Kuryłowicz, *BSL* LXXII, 71 f. For further details, cf. Lindeman, *Triple representation*, 41 f.

To sum up: at a relatively early stage of non-Anatolian Indo-European the different 'laryngeals' fell together under one colour, a development which resulted in the phonemization of the contrast between *e*, *a*, and *o*, cf. the following schematical illustration:

	full grade	**zero grade**
	*dhéH$_1$- 'put	_*dhH$_1$-tó-_
	*stáH$_2$- 'stand'	_*stH$_2$-tó-_
	*dóH$_3$- 'give'	_*dH$_3$-tó-_
giving:	*/dhéH-/	*/dhH-tó/
	*/stáH-/	*/stH-tó-/
	*/dóH-/	*/dH-tó-/

In the zero grade forms (*/dhH-tó-/, etc.) the consonant clusters were resolved by the insertion of an anaptyctic vowel.

The assumption of a syncretism of all 'laryngeals' under one colour in non-Anatolian IE finds support in the Greek aorist type in _-ē-_, e.g. _dam-ē-_ (: pres. _damázō_ 'tame'). If we are justified in reconstructing the verbal stem meaning 'tame' as _*demH$_2$-_ (cf. R.S.P. Beekes, _Development_, p. 198), it follows that the IE preform underlying the aorist _dam-ē-_ must be posited as (zero grade) _*dm̥H$_2$-_ + suffix _-eH$_1$-_. We would expect the latter formation to have given Greek _*damā-_ with colouring of the _e_ of the suffix to _a_ by the preceding _*H$_2$_, i.e. _*dm̥H$_2$aH$_1$-_ > _*damā-_. The attested Greek form, however, is _damē-_ with a proto-Gk. _-ē-_. Consequently, the aorist type _damē-_ can only have been formed after the syncretism of the different 'laryngeals' under one colour, i.e. _damē-_ presupposes (zero grade) _*dm̥H-_ + suffix _-eH-_, see Lindeman, _IF_ 90, 62 f. For the same reason, Gk. aorist _e-bíō_ cannot go back to _*g^{w}iH$_3$oH$_1$-_ (as assumed by E.D. Francis, _Glotta_ 52, p. 29, followed by R. Normier, _KZ_ 92, 1978, 132f.), but must come from a theme II _*g^{w}i(y)-éH$_3$-_, cf. § 39, _Remark_ above.

§ 87 There are some problematic forms, e.g. Gk. _ánemos_ (Myc. _a-ne-mo_) 'wind', from the verbal stem _*H$_2$enH-_, attested by Skt. _áni-ti_ 'breathes'; there is no theme II _*anē-_ in Greek (< _*H$_2$néH$_1$-_) on which an original _*ana-ti_ (= Skt. _áni-ti_) could have been remodelled into _*ane-ti_, cf. _thetós: tí-thē-mi_, etc. Hence, scholars who regard the Greek triple representation of Schwa as a phonetic archaism posit IE _*H$_2$énH$_1$-mo-_ >

Gk. *áne-mos* with *-e-* from a 'vocalized' *-H_1- (see Mayrhofer, *IdgGr.* 1, p. 127).

Lindeman, *IF* 91, 79 ff., however, finds this explanation questionable. Since **H* represents a consonantal element inherently less sonorous than the resonants **r*, **l*, **m*, **n* (§ 16), it follows that an IE sequence of the type */-eRHRe-/ (*R*= **y*, **w*, **r*, **l*, **m*, **n*) must be interpreted phonetically as *[*-eRHṚe-*] (according to Sievers' Law). After the regular loss of the prevocalic 'laryngeal', *[*-eRHṚe-*] would have given *-*eRṚe-* in the non-Anatolian IE languages. The following example may illustrate the proposed phonetic development: */g'énH_1-yo-/ (from the stem **g'en*H_1- 'beget' plus suffix *-*yo*-) = phonetically *[*g'én*H_1*-io-*] (in accordance with Sievers' Law). The latter formation, which became **g'én-io-* after the loss of the prevocalic 'laryngeal', survives in Vedic *ján-iya-* 'belonging to the race'. (The variant form *ján-ya-*, in which the hiatus (*ia*) has been removed, would be due to the 'converse of Sievers' Law').

Similarly, the Skt. comparative *yávīyas-* 'younger', the *-ī-* of which is due to a secondary lengthening (see n. 200), reflects IE *[*yéwH-ios-*] (: **yuH-e/on-* 'young' seen in Skt. *yúvan-*; for the segmentation **yuH-* + suffix *-*e/on-* see Lindeman, On some 'laryngeal' reflexes in Celtic, *ZCP* (forthcoming). The same explanation applies to Vedic comparatives like *tár-īyas-* 'easily passing through' < *[*térH-ios-*], cf. *tiráti* 'crosses', and *dáv-īyas-* 'farther' < *[*déwH-ios-*], cf. *dūrá-* 'distant, far'.[200]

---

[200] Cowgill, Italic and Celtic Superlatives and the Dialects of Indo-European p. 136 (in: *Indo-European and Indo-Europeans*, Philadelphia 1970), wrongly segmenting *tárīyas-* as *tárī-yas-*, morphemically, takes the *-ī-* to be the reflex of a 'vocalized' **H*. For a discussion of the Vedic comparatives in *-īyas-* and the Attic Greek type *hēdīōn* (which has been secondarily lengthened from *hēdiōn*) see Szemerényi, The Mycenaean and the Historical Greek Comparative and their Indo-European Background, *Studia Mycenaea*, 1968, 25-36, esp. pp. 31-32 and n. 26 (= *Proceedings of the Mycenaean Symposium Brno April 1966*): regarding the origin of the long *ī* of OIndic comparatives like *navīyas-* Szemerényi, ibib. 32, n. 26, refers to the ordinals *turīya-*, *tṛtīya-* etc. from *turiya-* etc., and writes: 'The *ī* is lengthened from *i* in order to prevent its consonantalization to *y*, and is paralleled by *-īya-* from *-iya-* ...'. The same explanation applies to *yávīyas-*, *dávīyas-*, etc.

Remark 1: On the strength of the plausible assumption that (some of) the IE 'laryngeals' were fricative consonants (§§ 90, 95: [*x'* : *x* : x^w], etc.), we propose to equate the phonological structure of /-eRHRe-/ with that of /-eRsRe-/: thus, */g'énH-yo-/ and */bhéwH-yo-/ would seem to have been realized (according to Sievers' Law) as *[*g'énx'-io-*] (> RV *ján-iya-*) and *[*bhéwx-io-*] (> RV *bháv-iya-* 'future') in the same way as e.g. */wers-yo-/ and */ters-yV-/ were realized as *[*wers-io-*] (> RV *varṣ-íya-* 'rainy; rain cloud' and *[*ters-iV-*] (> RV X, 28, 10 *tarṣiyā́vat* 'thirsty'). In agreement with Schindler's hypothetic syllabification rules (*Sprache* 23, 1977, 33), we could write */g'énH$_1$-yo-/, */wers-yo-/, etc., as */g'én.H$_1$yo-/, */wer.syo-/, etc.[201]

If this be accepted, it follows that *ánemos* cannot be a direct reflex of */H$_2$énH$_1$-mo-/ since the latter was phonetically *[H_2ánH$_1$-m̥o-]. The restitution of the stem final 'laryngeal' of the verb 'to breathe' as *H_1 (i.e. *H_2énH$_1$-) has no support in any linguistic material outside Greek, and rests entirely on the preconceived idea that an interconsonantal *H_1 gives Gk. *e*. There are, however, no non-ambiguous examples of such a phonetic development. Some forms may have *e* by analogy (e.g. **ale-ti* 'grinds' in *aléō*, cf. **alē-*, found in *alḗthō*), in other cases no *sure* etymological connection has been established (e.g. for *theós*, the etymology of which Chantraine, *DELG*, p. 430, rightly describes as 'inconnue').[202] As long as there is no *unquestionable* evidence for the supposed development of *H_1 into *e* in Greek, it is purely *ad hoc* to define the medial 'laryngeal' of **wémHti* 'vomits' (attested by RV imperfect *ávamīt*) as *H_1 exclusively on the strength of the unexplained

---

[201] I hope to show elsewhere that Schindler's teaching (op. cit. 23, 60, 64), accepted by Mayrhofer, *IdgGr.* 1, 167, according to which a prevocalic resonant remained consonantal after a preceding sequence **VHT* is incorrect.

[202] B.A. Olsen, *BiOr.* Jahrgang XLVII, 1/2, 1990, 53, follows Rix, *Kratylos* 14, 179f., and takes Gk. *thés(-phatos)* 'spoken by the gods' and RV *dhíṣṇiya-* to come from IE *dhH$_1$s-*, by regular sound change. For the reasons set forth by Chantraine, *DELG*, 430, however, Gk. *thes-* must be considered etymologically obscure. Further, since the meaning of Vedic *dhíṣṇiya-* has not yet been satisfactorily established (cf. Mayrhofer, *EWAIA* I, 792), its etymology must likewise remain undecided. Thus, the philological basis of Olsen's etymological equation Gk. *thes-* = Vedic *dhiṣ-* < IE *dhH$_1$s-* simply does not exist. See Lindeman, *Triple representation*, 45.

_e_ of _(em)é(ō)._[203] Equally disputable is the view (e.g. Mayrhofer, _IdgGr._ 1, p. 142) that an interconsonantal _*H$_3$_ gave Gk. _o_ (cf. _Remark_ below).

Remark 2: Hittite _la-hu-wa-a-ri_, 3 sg. middle pres. of the verb _lah(h)uwa-_ 'pour', may go back to _*laH$_2$w-ó(-ri)_; the apparent full grade of the root seems to have been modelled on the accented sing. active pres. _la-a-hu-i_ (which Jasanoff, _HethIdg., p._ 88, derives from _*léH$_2$-w-e(i))._ A morphologic parallel to the retention of the full grade vowel in _*laH$_2$w-ó(-r)_ can be found in OIr. passive forms of the type _do-formagar_ (_*to-for-mag-_ 'increase'), _do-adbadar_ (_*to-ad-fēd-_ 'show'), etc. in which the stem vowel has been retained on the model of the 3 sg. pres. active: _do-formaig, do-adbat_, etc. (cf. Thurneysen, _Grammar of Old Irish_, p. 369).

A 'laryngeal' metathesis in _*laH$_2$w-_ = phonemically */leH$_2$w-/ could explain a variant form */lewH$_2$-/ of the verbal stem in question. In the same way as Hitt. _la-hu-wa-a-ri_, i.e. _*laHw-ó(-r)_, has beside it a (later) variant _la-hu-wa-ta-ri_, i.e. _*laHwo-to(-r)_, in which the ending _*-to_ has been added to the old form in order to better characterize it morphologically (cf. Watkins, _IdgGr._ III/I, p. 84, for this replacement of _*-o_ by _*-to_), the variant 3 sg. middle _*lewH$_2$ó_ (< _*leH$_2$wó_, by 'laryngeal' metathesis) may have undergone exactly the same morphological refashioning to _*lewH$_2$o-to_, whence, after the loss of the prevocalic 'laryngeal', _*lewo-to_. (_*H$_2$_ does not affect an adjacent _*o_ according to §40). The stem of _*lewo-to_, interpreted as the regular athematic preconsonantal reflex of this verb, must have (gradually) replaced _*lewa-_ (< _*lewH-_) in Greek (cf. Myc. _lewo-_, later _lo(w)e-_, cf. § 54 above). See _Triple representation_, 50f. (where I incorrectly posited the IE verbal theme as _*leH$_3$w-_. For the reconstruction _*leH$_2$w-_, cf. Winter, _EvfL_, p. 108, Jasanoff, _HethIdg._, p. 88).

A full grade _*stera-_ (= Skt. _á-starīs : stṛṇā́ti_ 'strews') became early Gk. _*stero-_ in accordance with the following analogical proportion: _CRā- : CeRa-_ = _CRō-_ (cf. _strō-tós_, for the _rō_ of which, see §49, _Remark) : x; x = stero-_, seen in the aorist _*sterósai > storésai_ (cf. Ruipérez, _Emerita_ XVIII, 386 ff., _Études Mycéniennes_, p. 107, note 3, Cowgill, _EvfL_, 158 ff.). For Gk. _omóssai (: ómnūmi_ 'swears'), see Lindeman, _IF_ 91, p. 80, note 11, who suggests that the Greek aorist in question ultimately goes back to an inherited reduplicated aorist corresponding to Skt. _ā́mamat (: ámīti_ 'anpacken' = 'schwören' according to Hoffmann, _KZ_ 83, 197ff.). The origin of the Gk. stem _*omo-_ may be found in the 1 pl. aorist which suffered a haplological dissimilation in Greek, i.e. _*omomomen > omo-men_. See Lindeman, _IF_ 91, p. 80, note 11, for details.

---

[203] Mayrhofer, _IdgGr._ 1, p. 127, observes: 'Die Entwicklung */h$_1$/ > gr. _e_ muss im übrigen kumulativ mit weiteren Wirkungen gesehen werden ...' This, however, is of little help: as long as the number of non-ambiguous examples of */h$_1$/ > Gk. _e_ is _zero_, a further cumulation of ambiguous examples has no demonstrative power: $\emptyset \,.\, x = \emptyset$ (for all _x_'s).

Despite Olsen, _BiOr_. Jahrgang XLVII, 1/2, 1990, 53, there is no way of proving that Gk. _dokhmós_ and _dókhmios_ 'en travers, oblique', frequently connected with Skt. _jihmá-_ 'schief', although the initial consonantism of the Sanskrit word is troublesome, are regular reflexes of an IE preform *$dH_3g'h$_-mó-_. Firstly, the Gk. forms in question may come from a full grade *_dHog'h-mó-_, cf. e.g. the structurally parallel IE *g^w_hor-mó-_ > Skt. _ghar-má-_, see Lindeman, _Triple representation_, 50. Secondly, Skt. _jih-má-_, if from IE *_gig'h-mó-_, might be cognate with Gmc. *_kai-ka-_ in OIcel. _keikr_ 'bent backward', NNorw. _keik_ 'distortion', etc., cf. Pokorny, _IEW_, 354.

§ 88 It is frequently assumed that Schwa indogermanicum, i.e. a 'vocalized' 'laryngeal', has given _a_ in Hittite, see for example Kronasser, _VLFH_, §29, Kammenhuber, _KZ_ 77, 170f., note 4, Gamkrelidze, _Laringal'naja Teorija_, 76ff., Eichner, _MSS_ 31, p. 55, _Fachtagung_ VI, 128 f., and Oettinger, _MSS_ 34, p. 101.

However, there does not seem to exist any non-ambiguous evidence for such a development, cf. Lindeman, _Triple representation_, 55f., Schindler, _Sprache_ 15, p. 145, Melchert, _StHHPh_, p. 129, note 98, Melchert, _AHPh._, 87. Hitt. _maklant-_ 'meagre' (acc. sg. _ma-ak-la-anda-an_) might be derived from a root *$me\underset{\cdot}{H}_2$- with a voiced _a_-colouring 'laryngeal' (for which, cf. § 28 above, and see also Sturtevant, _CG_, p. 52), cf. Gk. Dor. _mâkos_ 'length'. Hitt. thematic neuter pl. in _-a_ (= Luw. and Pal. _-a_) may be from *$-e\underset{\cdot}{H}_2$, see §41 above: Hitt. _dannatta_ 'empty' = Skt. _-ā_ in _priyā́_ 'dear', etc.; the neuter pl. of consonant stems (type _humanda_) may have _-a_ (< *$-e\underset{\cdot}{H}_2$) from the _o_-stems, cf. Lat. _-ā_ in _trigintā_, and see Sommer, _Handbuch der lat. Laut- u. Formenlehre_^{2}, pp. 351 and 386. (Cf. Lindeman, _Sprache_ 29, 42f.). It should be noted, in this connection, that Melchert, _Sprache_ 33, 1987, 19f., n. 3 (cf. _AHPh._, 87), thinks that the 'hapax _aniat-šet_ (_KUB_ XXXVI 100 Vs 13; OH ms.) for usual _aniyatta-(šet)_ 'his regalia' (coll. pl. to anim. _aniyatt-_) may well be an archaism showing the regular reflex of final *$-Th_2$, i.e. zero.' A particularly convincing example of non-'vocalization' of a word-final 'laryngeal' in Anatolian is Hitt. nom. acc. sg. _mek_ 'much' (_me-e-ek_) < IE *$még'H_2$. Cf. Melchert, _AHPh._, 87.

A simple reference to Gk. _-mestha_ and Vedic _-mahi_ cannot prove that the final _-a_ of Hitt. 1 pl. middle _-wasta_ comes from a 'vocalized' *H_2. According to Melchert, _AHPh._, 87, the final vowel of _-wasta_ 'does not continue directly *$-h_2$ of *_-we/oz_d^hh_2, but is rather a prop vowel to maintain the final cluster, just as in the preterite third singulars in /-Cta/ ...' For a different interpretation see Lindeman, *HS* 102, 279, who points out that it is Hitt. *-duma*, not **-dume*, that corresponds to non-Anatolian IE 2 pl. middle **-dhwe*:[204] *-duma* may continue earlier **-dhwo* with an old ablaut **-o*, or, alternatively, an original **-dume* < **-dhwe* that was analogically refashioned into *-duma* after the model of the 3 pl. *-anta.* If so, the *-a* of 1. pl. *-wasta* may have been taken over from the 2. and 3. plural forms.

Regarding the cited Hieroglyphic Luwian *twatra*, it was pointed out above (§ 85) that there is no way of proving that the medial *-a-* of this word for 'daughter', which is unattested in Hittite, testifies to a 'vocalization' of the medial 'laryngeal' of */dhwgHt(e)r-/ 'daughter' in Proto-Anatolian. It is sufficient to refer to the difference between Skt. *duhitár-* and Avestan *dugδar* in order to demonstrate that the reconstruction of a *Proto-Anatolian *tugat(a)ra-* on the strength solely of Luwian *twatra* remains doubtful.

The origin of the *a-* of *asanzi* 'they are' (: 3 sg. *eszi), adanzi* 'they eat' (: 1 sg. *edmi*) is difficult to account for (cf. § 67 above). According to the attractive suggestion by Catsanicos, *BSL* LXXXI, p. 172, the root vocalism of *asanzi, adanzi* may have been analogically reshaped on the model of verbal stems ending in a resonant, e.g. pres. 3 sg. *mer-zi* 'dies' : 3 pl. **maranzi* (cf. *d/taranzi* 'they say') = 3 sg. *es-zi:* 3 pl. *x; x = asanzi;* for the participle *asant-, adant-*, cf. the type *d/tarant- (: te-/tar-* 'say'). Similarly, Melchert, *AHPh.*, 66, regards 'the initial *a-* of PA weak stems in **aT-* such as **ad-* 'eat' and **as-* 'be' as analogical to the weak stem **sas-* of 'sleep' and other *TeT* roots...'

It should be stressed in this connection that Hitt. *ha-as-te-er-za*, if it stands for *hster(-s)*, shows the maintenance of the initial 'laryngeal' in its *consonantal* form as do forms like *walhhzi* < **wélH-ti* 'strikes', *sanhhzi, parhhzi*, etc. (cf. § 41 above). It seems so far, therefore, that we have no conclusive evidence for a vocalization of a 'laryngeal' to *a* in Hittite (either initially or medially/finally).

---

[204] Melchert, *StHHPh.*, 26, reconstructs the IE ending as **-dH*$_2$*we* on the strength of the frequent Hittite spelling *-ttuma/-dduma*, the *-tt-/-dd-* of which, according to Melchert, could be to Vedic *-dh-* in *-dhvam* as Hitt. *-kk-* in *mekki-* 'much' (< **meg'H*$_2$*-i-*) is to Vedic *-h-* in *mah-* 'great'.

IV

Phonology and 'laryngeals'

§§ 89-95 On the phonemic status of the 'laryngeals'

§ 89 The evidence of the written sources constitutes a deficient basis for determining the exact phonetic nature of Hittite *h*. It has been assumed that Hitt. *h* represents a dorsal fricative, or (perhaps less likely) a velar plosive.[204] Cf. Kronasser, *EHS*, 94 ff., Puhvel, *EvfL, 80* ff., Martinet, *Phonetica* 1, 8 f., Crossland, *TPS* (1951), 92ff., Ivanov, *Xettskij Jazyk*, 87f., Melchert, *AHPh.*, 47.

§ 90 As we have seen above in § 16, Cuny's analysis of verbal adjectives of the type Skt. *pūrṇá*, Lith. *pìlnas*, etc. furnishes cogent evidence for the consonantal nature of the IE 'laryngeals'. The assumption that at least some of the IE 'laryngeals' may in fact have been dorsal fricatives finds some support in Kuryłowicz's observation *(Apophonie, p.* 109, note 14) that the 'laryngeals' seem to have constituted 'une classe de phonèmes intermédiaires en ce qui concerne leur fonction, entre les consonnes proprement dites et les sonantes.' Pointing to the phonologic structure of themes like *$*g^{w}erH$-* 'swallow' (Skt. *giráti), $*pelH_{1}$-* 'fill' (Skt. *pṛṇā́ti)* which seem to correspond to themes of the shape _*wert-_ 'turn' (Skt. *vártati),* Kuryłowicz draws attention to the existence of themes like Skt. *khād-* 'chew', *śās-* 'order', Gk. *wrēg-* 'break asunder' whose structure (_*CeHC-_) is parallel to that of e.g. _*bheydh-_ (Gk. *peíthō* 'persuade') and similar stems. (Cf. Cuny,

---

[204] Cf. Crossland, *ArchLing*. 10, p. 98. In this connection one should note the (rare) alternations between *k* and *h* in cases like *hameskant-* for *hameshant* 'springtime', and *ishisa-* for *iskisa-* 'Rücken'. *h* alternates with *r* in *wahnu-* = *warnu-* 'burn', cf. Puhvel, *EvfL, p.* 84. *HED, p.* 393, cf. above, § 21, n. 11. See also Kronasser, *EHS*, 98ff. For Pal. *ahu-* 'drink' vs. Hit. *eku-*, and Luwian *sahuidara- vs.* Hitt. *sakuwassara-* 'regular', see Puhvel, *EvfL, p.* 84, cf. Laroche, *DLL, p.* 84. For Palaic *h*, cf. Kammenhuber, *BSL* 54, p. 29, Carruba, *StBoT* 10, 40f.

Revue de Phonétique 2, p. 107). See also Kuryłowicz, *Mélanges Renou*, p. 437: 'La coexistence de racines du type *-EHT* et de racines set *-ERH* semble bien un indice de l'"ouverture" particulière de *H* située entre celles de *T* et de *R*'. We also refer to the interesting discussion by Ammer, Studien zur indogermanischen Wurzelstruktur, *Sprache* 2, 193 ff., 209 ff., who likewise concludes that the 'laryngeals' mainly were fricatives. See also Lehmann, *PIEPh.*, 103 ff., and *Kuryłowicz Memorial Volume* I, 4; Mayrhofer, *IdgGr.* 1, 121 f., and note 101 (with further references).

§ 91 In several places above (§§ 28, 29, 41, 43, 45) we have tentatively assumed that the parent IE language possessed distinctively voiced 'laryngeal' consonants. Theoretical considerations make this extremely plausible, cf. the discussion by Martinet, *PICL* 8, 41 ff. However, the various IE dialects offer little or no concrete material that might provide a confirmation for such a hypothesis (cf. § 77, *Remark* 2 above, for the supposed voicing of **p* to *b* by $*H_3$ in the reduplicated present Skt. *píbati*, OIr. *ibid*, etc.). As the Anatolian material is of crucial importance here it deserves a closer examination.

§ 92 It is frequently assumed that Hittite possessed two different *h*-phonemes written *-h-* and *-h(h)-*, respectively, in intervocalic position.[205] This assumption finds support in 'Sturtevant's rule'[206] according to which IE voiceless plosives were written double and IE voiced plosives single in positions where the Hittite syllabary made that possible, i.e. between (written) vowels.[207]

---

[205] The notation *-h(h)-* indicates that the double writing of *-hh-* is not carried out consistently, cf. *sa-a-k-hi* : *sa-ag-ga-ah-hi* (to *sak-* 'know'), *tar-ah-hu-un* : *tar-hu-un* (to *tarh-* 'vanquish'), *la-a-hu-i* : *la-ah-hu-u-wa-i* 'pours', etc. See Sturtevant, *CG*, p. 27, Crossland, *TPS* 1951, 94f.

[206] See Sturtevant, *CG*, p. 26, and note 45 (with further references).

[207] For the use of single and double orthographies in the case of *l, m, n, r, s,* and *z*, cf. Sturtevant, *CG*, p. 27 f. and Crossland *TPS* 1951, p. 94, note 3, Melchert, *AHPh.*, 79ff.

There can be no doubt that Hittite orthography observes the rule in question[208] in a fairly consistent manner in the case of the plosives *p, b, t, d, q, k, g* in *root syllables*, cf. Laroche, *BiOr.*, Jaargang XVIII No 5/6 (1961), 254f.: 'Toutefois, il convient de rappeler que les occlusives intérieures *radicales* se répartissent, pour un mot donné, en simples et en géminées. On a toujours *ne-pí-is* "ciel", jamais **ne-ep-pí-is*: lire **nebes*; toujours *te-(e-)kán* "terre", jamais **te-ek-kán*: lire **tegan*; toujours *pít-ti-ya-* "courir, voler", jamais **pí-ti-ya-*: lire **pet(i)ya-*. Cette habitude graphique, commune aux scribes de Bogazköy et à ceux du Mitanni (cf. E.Speiser, *Introduction to Hurrian*, §47 et sqq.), offre très peu d'exceptions.'

Whether the graphic opposition between *-h-* and *-h(h)-* can likewise be interpreted as pointing to the existence of two different *h*-phonemes in Hittite remains a moot point for different reasons. Thus, it should be noted that single intervocalic *-h-* occurs chiefly after a written *-e- (-i-)*, rarely after *-a-*, as opposed to *-h(h)-* which occurs regularly after the vowels *-a-* and *-u-*; *-h(h)-* is found after a written *-e- (-i-)* only in such cases where *-h(h)-* represents the initial consonant of a verbal ending (e.g. in *te-eh-hi*, i.e. *te-hhi* 'I place'). This is why Hammerich, *Lingua* 22, 1969, p. 209, takes *-h-* to represent an *ich*-Laut, and *-h(h)-* an *ach*-Laut. However, there are also cases where *-h-* is consistently written single in the position after *-a-*, e.g. in the verb *sah-* 'clog (with dirt), plug, stop' (Puhvel, *FlorAnat*, 300, Laroche, *RHA 9*, p. 16, and note 12), cf. pres. 3 sg. *sa-ha-a-ri, sa-a-hi-is-kat-ta-ri*, etc. (*StBoT* 5, 144).

---

[208] Cf. Sturtevant, *CG*, §53, Benveniste, *HI*, p. 7, Scheller, *IF*, 69, 38f., Anm. 6; Kammenhuber, *BiOr*. 21, 201 f., Crossland, *ArchLing*. 10, p. 81, *TPS* 1951, 92 ff., 99 ff., *PICL* 8, p. 473, and Kronasser, *EHS*, 13f. The exact nature of the contrast *-t-:-tt-*, etc. in Hittite (voiced : voiceless, or lenis : fortis) is another matter, cf. Kuryłowicz, *PICL* 8, p. 220, who for many cases assumes a graphemic explanation for the double writing. Gamkrelidze, *Peredneaziatskij Sbornik* (1961), 238f., takes the double writing to indicate aspirated consonants (e.g. IE **p* > Hitt. *ph*, graphically *-pp-, -bb-*); single writing allegedly indicates voiceless (non-aspirated) plosives (e.g. IE **d* and **dh* > Hitt. *t*, graphically *-t-*, etc.). See now Gamkrelidze-Ivanov, *Indoevropejskij jazyk i indoevropejcy* I (1984), p. 46. Cf. further Jucquois, *Hethitica* I (1972), 86 ff. and Eichner, *MSS* 31, 79 ff. (and note 88), Melchert, *AHPh.*, 14f.

Martinet, _PICL_ 8, 50f., argues that although 'Sturtevant's rule' indicates that Hittite had two series of plosives, this does not necessarily imply that the use of single and double orthographies in the case of _h_ may not have had a different significance. From a strictly logical point of view this is certainly true. It seems, however, difficult to find any clear alternative to Sturtevant's view that Hittite scribes in the case of _h_ denote original voicelessness and voice by double and single writing, respectively. Thus, Bonfante's suggestion, _Classical Philology_ 39, p. 51, that _-h-_ in for example _mehur_ 'time' may have indicated a hiatic pronunciation (i.e. _mĕür_, rather than *_mewr_ with a diphthong _ew_) remains speculation as long as it has not been shown that the _-h-_ in e.g. _ú-e-eh-zi (wehzi)_ has been analogically restored on the model of forms with intervocalic _-h-_ (e.g. _ú-e-hu-un_, 1 sg. pret. of _weh-_ 'turn').[209] The same objection can be raised against Cowgill's explanation of _mehur_ in _HethIdg._, 27 f., note 8. Basing himself on the realization 'that single _h_ between _e_ and _u_ in Hittite has no etymological value', he explains _mehur_ as a *_-wr̥/-wen-_ noun to the root *_meH_$_1$_-_ 'measure' (Skt. _mā-ti_, etc.), i.e. IE *_méH_$_1$_wr̥_ > *_meHur_ > *_meür_ (disyllabic) of which _mehur_ 'is either a writing or a further development.' Cowgill, ibid., 27f. (with references), finds a phonetic parallel in Hitt. _ehu_ 'come!' which he takes to represent *_ey_ *'go!' followed by a particle _u_, the single _h_ having no etymological value. That _ehu_, however, is _not_ a development of earlier *_eyu_ can be seen from the noun _heu-_, _heau-_ 'rain' that comes from pre-Hitt. *_heyu-_, *_heyaw-_ (according to Cowgill's own derivation in _Kratylos_ 29, p. 8). Cowgill's suggestion has been shown to be incorrect by Catsanicos, _BSL_ LXXVIII, fasc. 2, 1983, 88, who refers to Hitt. _tameum(m)a-_ 'aliēnus' 'formé à l'aide du suffixe d'ethnique (cf. _kuenzumna-_ "cūjās ?") sur le thème des cas obliques _d/tame-_ de _d/tamai-_ "autre" ...', cf. Melchert, _AHPh._, 134.

Puhvel, _HED_, p. 257, connects Hitt. _ehu_ 'come!' with the stem of _iya-_, _ie-_ 'go'; _-hu_ is plausibly taken to reflect *_H_$_2$_au_ 'away, off' (cf. Lat.

---

[209] Cf. Crossland, _TPS_ 1951, p. 104: 'Bonfante's suggestion that _h_ in such words as _mehur_ may have been a graphic device for indicating hiatus or vowel-length cannot be conclusively disproved, but the fact that it has not been shown that the _h_-signs were used in this way in any other class of cuneiform documents is a strong argument against it.'

au- in *au-ferre*, etc.) by Eichner, *MSS* 31, p. 55.

Eichner, *MSS* 31, p. 100, note 88, teaches that single *-h-* in *ú-e-eh-zi, ú-e-hu-un* and *me-e-hu-ur* and similar forms represents the lenition of *-hh-* (the regular reflex of *-H_2-) after a stressed long vowel (cf. Melchert, *StHHPh*, p. 11, and note 8). For lenition in Proto-Anatolian, see now Eichner, *KZ* 99, 206f., n. 10, and Melchert, *AHPh.*, 6f., 60f., 68 (with further references).

However, the assumption that the etymologically obscure *mehur* goes back to an IE lengthened grade */mēH_2wr/ has been shown to be entirely *ad hoc* in § 46 above. There it was pointed out that to posit IE **wēH_2-ti* to account for the single *-h-* of *ú-e-eh-zi* (the etymology of which remains unknown) is equally *ad hoc:* the unexplained single *-h-* of *ú-e-eh-zi* is here made the justification of the assumption of a lengthened grade **wēH_2-* which itself 'explains' the single *-h-* of *ú-e-eh-zi*. It is important to stress that the oldest paradigm of *weh-* in Hittite is (3 sg.) *ú-e-eh-zi*: (3 pl.) *wa-ha-an-zi* (with consistently single *h*), see *Triple representation*, p. 14, note 5 with references. Cf. also § 93, note 213 below, for the plural *wa-ha-an-zi*. Strictly speaking, as shown above (§ 46 b), there is no plene-writing in the case of *ú-e-eh-zi*.

In *HS* 105, 1992, 189ff., Melchert adduces another example for 'lenition' of *-hh-* > *-h-* in Proto-Anatolian, i.e. the ending **-hhaha( )*, from *-H_2e-H_2e, allegedly attested by the Hittite 1 sg. middle ending *-haha( )* = Lycian *-χagã*. Segmenting the Lycian verb (hapax) *aχagã* (*TL* 44c, 3-4) as *a-χagã*, Melchert identifies the verb stem as *a(i)-* 'do, make' (= Luw. *a(ya)-* 'do, make'), and takes *-χagã* to be a 1 sg. middle ending corresponding formally to Hitt. *-hahat(i)*. The original ending *-H_2e-H_2e is said to be a variant, an 'iterated' form,[210] of the normal 1 sg. middle ending *-H_2e attested by Hitt. *-hha( )*. However, Melchert's reasoning here is circular, and, consequently, non-probative: the arbitrary segmentation of a hapax *aχagã* (of obscure meaning) as √*a-* 'do, make' + *-χagã* is made the justification of the assumption of a Lycian 1 sg. middle ending *-χagã*, the only vestige of which in Lycian is precisely the *-χagã* arbitrarily extracted from the hapax *aχagã* (of obscure meaning). It is safe to say, therefore, that Lycian, in this case, gives no convincing support to the hypothesis according to which Hitt. 1 sg. middle ending *-hhaha( )* comes from PAnat. *_-H_2e-H_2e( )_.

---

[210] Cf. Eichner, *Fachtagung* V, 77.

I choose to adopt E. Neu's explanation of Hitt. *-ha-ha( )* as a graphic phenomenon (*StBoT* 6, 24): forms like *eshaha( )*, *pahhashaha( )*, etc., are graphical representations of *_es-hha( )_, *_pahhs-hha( )_, etc., with the same *-hha-* as in the vowel stems, cf. e.g. *e-es-ka-ah-ha.*[211]

Remark: Whether the *e* of *me-e-hu-ur, ú-e-eh-zi*, etc. was ever phonemically long in Hittite is doubtful. G. Hart, Some Observations on Plene-Writing in Hittite, *BSOAS* XLIII, 1 ff., has made it seem extremely plausible that plene-writing does not indicate vowel length, but is historically connected with the IE accent. See Carruba, *KZ* 95, 1981, 232ff., J. Catsanicos, *BSL* 69.2, 1984, 148ff., and Puhvel, *HED* 3, 224.[212] Cf. also C. Watkins, *PICL* XIII, 1983, 271f.

According to Melchert, *StHHPh*, p. 162, 'plene spellings have at least three other functions in Hittite orthography in addition to indicating vowel length: (1) to show *e*-coloring of the vowel with ambiguous *Ce/i-* and *-e/iC* signs (*pé-e-da-an* beside *pé-da-an* for /pedan/ 'place'); (2) to mark the position of the accented syllable (nom.-acc. sg. *te-e-kán* /dégan/ 'earth' vs. gen. sg. *ták-na-a-as* /dagnás/, loc. sg. *ták-ni-i* /dagní/ etc.); (3) in the case of all monosyllables except sentence-initial conjunctions, to avoid writing a word with only one sign (*da-a* /dă/ 'take!' and *i-it* /ĭd/ 'go').' See also above § 46 b., note. However, Melchert, *AHPh.*, 27 (with further references), now follows S. Kimball, H. Eichner, Oettinger and other scholars in assuming that plene-writing in Hittite (and also in Palaic and Cuneiform Luwian) marks synchronic vowel length only. (For the 'plene-writing' *ú-e-eh-zi*, 3 sg. pres. indic. of *weh-* 'turn', see above § 46 b).

We choose to follow Crossland, *ArchLing*. 10, p. 81, who sees a strong argument in favour of the view that Hittite had two different *h*-phonemes in the graphical opposition between *-(e)h-* and *-(a)h(h)-* attested by morphologically parallel formations of the type (pret.) _weh-un_ and _nahh-un_ (to _nahh-_ 'fear'). See also Crossland, _PICL_ 8, p. 59.

---

[211] In a personal letter (of August 12, 1996) E. Neu observes: 'In der jungen Abschrift eines altheth. Textes begegnet mal die Verbalform *e-eš-ha-ti* (schon durch *-ti* als althethitisch ausgewiesen), aufs Konto des Abschreibers des 13. Jh. v. Chr. gehen aber Graphien wie *e-eš-ha-ha-ti* oder *[e-e]š-ha-ha-at-ti* (zu den Belegen s. StBoT 5, 26). Im Telipinu-Erlaß (junge Niederschrift) findet sich mehrfach *e-eš-ha-at*, ein Duplikat dazu (ebenso jung) kennt auch *e-eš-ha-ha-at*. Schreibungen wie *e-eš-ha-ha-at* dürfen als jung gelten. Die Schreibweise *-ha-ha-* entspricht einem *-hha*, vor allem nach Vokal (vgl. *e-eš-ka-ah-ha*, *[e-e]š-ka-ah-ha-ri*, Belege StBoT 5, 27 sowie HW^2 E s.v.).'

[212] For a criticism of Hart's view, see now Eichner, *KZ* 99, p. 208, note 12, and cf. S.E. Kimball, *IF* 91, 85 ff.

§ **93** The vocalism and the single _-h-_ in the root syllable of a form like _weh-un_ make it seem extremely plausible that the _-h-_ here represents a neutral voiced 'laryngeal', cf. Sturtevant, _CG_, § 75. We will denote this 'laryngeal' by the symbol _*Ḥ_$_1$. It should be duly stressed, however, that the assumption of the existence of two different _h_-phonemes in Hittite inevitably remains a moot point as long as Hittite words with single _-h-_ (and _e_-vocalism) of the type seen in _ú-e-eh-zi_, pl. _wa-ha-an-zi_,[213] _me-e-hu-ur_, etc. lack convincing etymological connections in the other IE languages, cf. the discussion above in §§ 25 a., 45, _Remark_, 46.

---

[213] Taking _ú-e-eh-zi : wa-ha-an-zi_ to represent a normal athematic _mi_-verb, we may see a regular IE _e_-full grade in the singular stem, i.e. _*wéh-_, corresponding to that attested by IE _*sés-ti_ 'sleeps' > Hitt. _ses-zi_ (cf. Skt. _sás-ti)_. The plural _wah-anzi_ could be a reshaped form (for older _*wh-énti_ with regular zero grade), cf. the following analogical proportion: _sés-zi : sas-ánzi = wéh-zi : x, x = wah-ánzi_. (The variant form _sesanzi_ has taken over the _e_-vocalism of the singular, see Melchert, _StHHPh_., p. 60). The origin of the _old_ allomorph _sas-_ of 1 pl. pres. _sa-su-e-ni (StBoT_ 26 p. 165), 3 pl. _sas-anzi_ might be explained along the following lines: an inherited IE paradigm (3 sg.) _*sés-ti_: (3 pl.) _*ss-énti > *s-énti_ (with simplification of initial _*ss- > *s-_) was remodelled in Anatolian on the type _*wélh-ti_ 'strikes' : pl. _*walh-énti_ (<_*wḷH-énti_) into _*sés-ti_ : pl. _*sas-énti_ (whence _sas-ánzi_); for the development of _*wélh-ti_ into later _walhh-zi_, see Kuryłowicz, _PICL_ 8, p. 228, Catsanicos, _BSL_ LXXXI, p. 169, and note 274. For Hitt. _sasant-_ c. 'Konkubine' (subst. ptc. of _ses-_), see _StBoT_ 26 p. 161, note 478 (with references). There is a striking contrast between the initial sequence of 3 pl. _wek(k)anzi_ (< _wek-_ 'demand') and that of 3 pl. _wahanzi_ (< _weh-_). As pointed out above (§ 46 b, n. 88), the inherited _*uk-anti_ = Vedic _uśánti_ < _vaś-_ may have become _*wek-anti_ by taking over the full grade of the singular (_wek-mi_). It is possible to speculate, however, that *#[_wḤ_$_1$-] (possibly = *#[_wγ'_-], see § 95) constituted an admissible initial sequence in the phonologic system of Proto-Indo-European. If so, the 3 pl. pres. indic. of _*weḤ_$_1$- 'turn' could be posited as *#[_wḤ_$_1$_-énti_] (i.e. *#[_wγ'-énti_]) for Proto-Indo-European. The latter form would have given PAnat. _*wh-anti_ which, then, was refashioned analogically into _*wahanti_ as explained above. Phonetically, *#[_wγ'_-] with a voiced dorso-palatal fricative *[γ'] would have been close to *[_wy_-] with the semi-vowel *[_y_], and it is interesting to note that *[_wy_-] is an admissible initial cluster in the parent language (cf. e.g. Vedic _vyayati_ 'covers'), whereas */wk'-/ must be realized as *[_uk'_-]. For initial clusters with _*w_ in the parent language see Meillet, _Introduction_, 136.

§ 94 From the preceding discussion we may now draw some tentative, summary conclusions: 'Sturtevant's rule' seems to indicate that Hittite had two different *h*-phonemes which occur as *-h-* and *-h(h)-*, respectively, between written vowels; *-h(h)-* stands frequently next to the vowel *a* (< IE **a* or **o*) and seems to be the regular reflex in Anatolian of the IE voiceless 'laryngeals' *H_2 and *H_3. Initially, IE */H$_2$e-/ and */H$_3$e-/ are reflected by Hitt. *ha-*.[214] The Hittite opposition between *-(e)h-* and *-(a)h(h)-* has no correspondence in Luwian.[215] The single *-h-* of Hittite *weh-*, pl. *wah-*, *sah-* 'clog (with dirt)', etc. may represent an IE voiced, non-colouring 'laryngeal'. Initially, */Ḥ$_1$e-/ may be reflected by Hitt. *he-*, see § 95.

§ 95 In §89 ff. we have tentatively assumed that at least some of the IE 'laryngeals' were dorsal fricatives. It is tempting to think that these fricatives may have constituted a system structurally comparable to that posited for the dorsal plosives of Indo-European, i.e.:

dorsal fricatives

	palatal	velar	labio-velar
(voiceless)	x'	x	x^w
(voiced)	γ'	γ	γ^w

Cf. the traditionally reconstructed system of IE dorsal plosives:[216]

---

[214] Cf. Hitt. *hant-* 'front' < *H_2*ent-* (§25 above) whose 'laryngeal' is written double in *mena-hhanda* 'toward, facing' representing a juxta-position of *mena* and *handa* in which Laroche, *RHA* 28, p. 37, sees the 'directif' of *mena-* 'cheek' and *hant-* 'front'. F. Starke, *StBoT* 23, 1977, 191f., *StBoT* 31, 1990, 131, n. 393, however, thinks that *menahhanda* comes from **menan* (gen. pl.) + *handa* 'den Gesichtern entsprechend, gegenüber'.

[215] According to Ivanov, *Obščeindoevropejskaja*, p. 14, and note 16, the lack of a corresponding opposition in Luwian can be explained by the later syncretism of **e* and (**o* >) *a* in Luw. *a*.

[216] See also A.M. Schenker, *Kuryłowicz Memorial Volume* I, 77. Cf. also Cowgill, *HethIdg.*, 29, n. 12, who posits three 'laryngeals' for IE: $\hat{x}$ for the *e*-colouring 'laryngeal', x for the *a*-colouring 'laryngeal', and x^w for the *o*-colouring 'laryngeal'. See

dorsal plosives

	palatal	velar	labio-velar
(voiceless)	k'	k	k^w
(voiced)	g'	g	g^w

The colouring of an **e* to **a* in the vicinity of *H_2 and *$\underset{.}{H}_2$ would be phonetically well understandable if the latter sounds were fricatives of the type [*x*] and [γ] whose velar articulation involves a retraction of the body of the tongue. Similarly, the *o*-colouring *H_3 and *$\underset{.}{H}_3$ may well have been rounded velar fricatives ([x^w] and [γ^w]) whose articulation involves retraction of the body of the tongue and simultaneous rounding of the lips. *H_1 and *$\underset{.}{H}_1$ which did not have any colouring effect on a neighbouring **e* may have been of a dorso-palatal type, i.e. [x'] and [γ'], respectively.

According to the description given by W.S. Allen, *TPS* (1956), 129 f., the (Caucasian) Abaza language has a system of voiceless and voiced dorsal fricatives corresponding to the one we have tentatively posited for Indo-European. Beside the palatal voiced fricative there is also a semi-vowel *y* (I.P.A.: palatal approximant [j]). It is further interesting to note that, according to Ladefoged and Maddieson, *The Sounds of the World's Languages*, p.165, 'the Chadic languages Margi and Bura have—at least on the surface—not only both the voiced and voiceless palatal fricatives **ç, ʝ** but also contrast these with a voiced approximant **j**, as well as with voiced and voiceless velar stops, and voiced and voiceless velar fricatives.' For Margi see also Ladefoged, *A Phonetic Study of West African Languages* (Cambridge, 1964), p. 28. The supposed coexistence of the semi-vowel **y* and a voiced dorso-palatal fricative *[γ'] in Indo-European is therefore clearly a theoretical possibility.

Also, the possibility should not be excluded that Indo-European may have possessed so-called pharyngeals, i.e. fricative consonants produced

---

Lindeman, *HS* 105, 1992, 161ff., for a criticism of H. Rix's particular claims (*IF* 96, 1991, 271) regarding the number and nature of the IE 'laryngeal' consonants.

by retracting the root of the tongue towards the hindwall of the pharynx.[217] See Martinet, *PICL* 8, p. 42 and *Économie*, p. 217, note 16. Typologically, we may again refer (with Martinet, *Phonetica* 1, p. 18) to the Abaza language which according to W.S. Allen's description has rounded as well as unrounded voiceless and voiced pharyngeal fricatives. There is also a glottal plosive.[218] It should be noted here that the lack of any colouring of **e* by $*H_1$, could mean that $*H_1$ should be defined as [*h*] (a voiceless laryngeal fricative) or [ʔ] (a glottal plosive), respectively. Cf. Martinet, *Phonetica* 1, p. 20.

The present state of our knowledge, as stressed by the present writer e.g. in *HS* 105, 1992, 169f., does not authorize us to practise any kind of dogmatism in this field where so little is known and so much will have to remain unknown.[219] It is surprising to see to what extent pure phonetic speculation dominates much of today's 'laryngeal' studies. A case in point is the 'lex Rix', see my observations in *HS* 102, 171f.[220] Healthy speculation about Indo-European phonology and 'laryngeals' should pay due attention to Martinet’s words in *Économie*, p. 231: ‘... on clarifiera cependant la situation si, en matière de laryngales, on opère moins avec des phonèmes qu’avec des traits distinctifs.’[221]

---

[217] R. Lass, How real(ist) are reconstructions ? (pp. 156ff. of: *Historical Linguistics Problems and Perspectives*, ed. Ch. Jones, 1993), referring to the term 'an index of oddity', writes (p. 176): 'The rarer a segment-type is, the more evidence we need to reconstruct it. Except if it is widely distributed either in the family concerned, or in the geographical area in which the language in question occurs.' In note 27 (p. 186) to this paragraph we read: 'One obvious place to invoke this would be for the IE laryngeals. At least some proposals, e.g. for pharyngeals ... could probably be excluded by the index.' This is a very strange objection: obviously, one cannot, by referring to an index of oddity which has to do with the historically attested dialects, exclude the possible earlier existence of—later lost— pharyngeals in the parent IE language.

[218] For pharyngeal and epiglottal fricatives in the world's languages see Ladefoged and Maddieson, *The Sounds of the World's Languages*, p. 37f.; p. 169f., the authors refer to Catford's analysis of the Burkikhan dialect of Agul, a language which 'has no fewer than seven pharyngeal and laryngeal sounds', i.e. a voiceless and a voiced pharyngeal fricative, a voiceless and a voiced epiglottal fricative, an epiglottal stop, a glottal *h*, and a glottal stop.

[219] See the sober summary of the 'Round table discussion: Zur Phonetik der Laryngale' , *In honorem H. Pedersen*, 433-466, by M. Job, ibid. 419-431.

[220] Cf. e.g. Rasmussen, *In honorem H. Pedersen*, 445, who in his defence of 'lex Rix', is bold enough to indicate possible phonetic nuances of IE pronunciation.

For a relatively early stage of non-Anatolian Indo-European we assume a syncretism of all ‘laryngeals’ under one colour leading to the phonemization of the contrast between *e*, *a*, and *o*, cf. the following scheme:[222]

	original system		
(voiceless)	/x’e/	/xe/	/xʷe/
(voiced)	/γ’e/	/γe/	/γʷe/

	> non-Anatolian IE		
(voiceless)	/xe/	/xa/	/xo/
(voiced)	/γe/	/γa/	/γo/

with two autonomous ‘laryngeals’, i.e. (voiceless) */x/ and (voiced) */γ/.

---

[221] For a discussion of such ‘feature transfer’ in a broader perspective see the Austronesian material adduced by R. Blust, *Linguistic Change and Reconstruction Methodology*, ed. Ph. Baldi, Berlin-New York, 1990, 248-51. According to Rasmussen, *In honorem H. Pedersen*, 442, however, ‘... the principle of "componential analysis" is not valid...’, but his argumentation is based on a series of misunderstandings. Thus, as is well known, the English ending *-z* < *-es* (gen. sg.; pl. of nouns; 3 sg. pres.) was at first a combinatory variant of *s*, which arose, *by lenition*, in voiced environments in the second half of the 14th century. The *-z* (from *-ez*, by vowel syncope) has been preserved—up to this day—in the vicinity of voiced sounds (*man’s*, *times*, *gives*), but became *-s*, by assimilation, in cases like *gets*, *hearts*. For the lenition behaviour of word-final stops in Sanskrit see R. Woodhouse, *HS* 108, 1995, 183: ‘In Sanskrit, and presumably also in PIE, word-final stops lose all their distinctive laryngeal/glottal features, being autmatically voiced if followed by a voiced sound (including vowels), otherwise being (or becoming) voiceless.’ As Woodhouse, ibid. 183, points out, ‘How such stops will be reflected at a subsequent state of the language, when different rules apply, may be impossible to specify in advance. Italic, for example, treats all inherited word-final stops as plain voiced (cf. OLat. *feced*, *sied*, Osc. *deded*, etc. ...’ Regarding the neutralization of sonority in word-final position in a case like Germ. *Rad*, see e.g. Martinet, *Économie*, p. 111.

[222] See Lindeman, *HS* 105, 1992, 164ff.

Taking Skt. _píbati_, OIr. _ibid_ and Lat. _bibit_ to go back ultimately to a reduplicated present _*pi-pH$_3$-e-ti_ (from _*peH$_3$-_ 'drink', with a distinctively voiced _*Ḥ$_3$_), structurally comparable to the one seen in Skt. _tíṣṭhati_, Lat. _sistit_, i.e. _*t/si-stH$_2$-e-ti_, one might have expected an assimilation of _*-p-_ to the voiced _*Ḥ$_3$_ to have led to Indo-Iranian _*bh_, see Martinet, _Phonetica_ 1, 21, _PICL_ 8, 49; Polomé, Reflexes of Laryngeals in Indo-Iranian 233f., and cf. above § 77, _Remark_.

However, at the stage when all the 'laryngeals' of different colour had fallen together, _*pi-pḤ$_3$-e-ti_ would have been phonetically *[_pibγeti_].[223] Assuming that voiced [γ] was lost earlier than voiceless [_x_] in non-Anatolian Indo-European, and paying due attention to the phonetic fact that considerably less air escapes through the narrowed glottis in the articulation of a voiced velar fricative [γ] than in the production of the corresponding voiceless fricative [_x_], we could posit *[_pibγeti_] > *[_pibeti_] for non-Anatolian Indo-European. The surviving *[_x_], however, which, after the disappearance of the voiced counterpart [γ], was no longer phonemically voiceless, now combined with voiced _*g'_, etc., to produce a so-called voiced aspirate in Indo-Iranian, cf. e.g. _*meg'ax_ 'great', gen. sg. _*meg'x-ás_ (with analogically restored _*g'_)[224] > _*meg'h-ás_, Skt. _mahás_.

The source of the single _-h-_ in Hittite words like _wehzi_ 'turns', _sah-_ 'clog (with dirt)', etc., has not been convincingly established. For the possibility that single _-h-_ may represent an IE voiced _e_-colouring 'laryngeal' see above § 93. Also, there can be no doubt that Anatolian participated—at least to some extent—in the same syncretism of the different IE 'laryngeals' that eventually led to the complete falling together of all the different 'laryngeals' under one colour in non-

---

[223] This reconstruction presupposes that the thematic vowel _-e-_ had been analogically reintroduced in the 3 sg. of this verb.

[224] At the stage when [_x_] was phonemically voiceless, */meg'x-ás/ would probably have been realized phonetically as *[_mek'x-ás_] with assimilation of voiced _*g'_ to the following voiceless fricative. It is interesting to speculate whether a corresponding stem form *[_mek'x-i-_] might not underlie Hitt. _mekk-i-_ (with loss of _*x_ after the voiceless _-k-_ written _-kk-_ according to Sturtevant's rule). If so, there would be no need to consider the _-kk-_ of _mekk-i-_ a geminate (according to § 76 above).

Anatolian Indo-European: thus, voiceless *H_2 and *H_3 have fallen together in *H (i.e. probably *[x] in non-Anatolian as well as in Anatolian IE, cf. the *h-* (< IE *H_2- and *H_3-) in Hitt. *har(k)-* 'hold, have' = Lat. *arceo* 'enclose', Hitt. *haras* 'eagle' = OHG *aro*, Hitt. *hasdwer* 'twigs, branches' = Gk. *ózos* 'branch', Luw. *hawis* 'sheep' = Lat. *ovis*.[225]

The following is a *tentative* scheme of the Hittite reflexes of the supposed IE 'laryngeals':

Symbols	**Reflexes in Hittite**
H_1	*zero (e-, -e-)*, e.g. *eszi* 'is', *temi* 'I say'
$\underset{\cdot}{H}_1$	*-h-* e.g. *ú-e-eh-zi*; *huekzi* 'conjures'[226]
H_2	*h-, -h(h)-*, e.g. *hant-* 'front', *newahh-* 'make new'
$\underset{\cdot}{H}_2$	*zero (a-, -a-)*, e.g. *ai-* 'give' in *pai-*; neuter pl. *-a*
H_3	*h-, -h(h)-*, e.g. *hasdwer* 'twigs, branches'
$\underset{\cdot}{H}_3$	*zero (a-, -a-)*, e.g. *ais* 'mouth', *dai* 'takes'

---

[225] For a different interpretation of the Hittite and Anatolian reflexes of the IE 'laryngeals' see Melchert, *AHPh.*, 55, 72, who posits two pharyngeal or dorsal fricatives for Proto-Anatolian, i.e. (voiceless) */H/ , the regular reflex of IE *H_2, and (voiced) */h/ continuing (a) word-initial *H_3 and (b) 'lenited' *H_2. Since Melchert believes (*AHPh.*, 18ff.) that IE mediae gave PAnat. tenues in absolute initial position and that both stops and 'laryngeals' underwent 'lenition' in Proto-Anatolian (ibid. 68), it is difficult to understand why he thinks that word-initial IE *H_3- gave a voiced reflex in Proto-Anatolian.

[226] If Puhvel, *HED* 3, 327, is justified in taking Hitt. *huek-* to reflect IE (dissimilated) theme II *E_2w-$eg^{(w)}h$- (i.e. in our notation *[$\gamma' weg^{(w)}h$-]), cf. Ved. *vāghát-* 'sacrificer', Lat. *voveō* 'vow', and Gk. *eúkhomai* 'pray' (< theme I *E_2ew-$g^{(w)}h$-). Another example may be seen in *hiqqar*, name of a tree, nom. sg. *hi-iq-qa-ar-za*, discussed above § 46, n. 79.

Remark: Puhvel, *EvfL*, 92, *HED* 1-2, X, offers a partly different interpretation of the Hittite reflexes of the Indo-European 'laryngeals':

Symbols	**Reflexes in Hittite**
E_1 (voiceless *e*-colouring 'laryngeal')	*zero*
E_2 (voiced *e*-colouring 'laryngeal')	*h-, -h-*
A_1 (voiceless *a*-colouring 'laryngeal')	*h-, -h(h)-*
A_2 (voiced *a*-colouring 'laryngeal')	*zero*
A_1^w (voiceless *o*-colouring 'laryngeal')	*zero*
A_2^w (voiced *o*-colouring 'laryngeal')	*h-, -h-*

§§ 96-103 Conclusions

§ 96 Since the evidence for Sturtevant's 'Indo-Hittite' still remains inconclusive (despite Cowgill's discussion in *PICL* 11, pp. 557-570, and *HethIdg.*, pp, 25-39), there is nothing that forces us to abandon Pedersen's hypothesis that sees Hittite (Anatolian) as an Indo-European dialect on an equal footing with the sister-languages (cf. Eichner, *Fachtagung* VI, 71 ff. and Kammenhuber, *KZ* 94, 33 ff.). However, certain facts suggest that Anatolian must have separated from the Indo-European linguistic community at a relatively early stage.

Thus, different IE 'laryngeals' clearly survive in the Hittite phonemes *-h-*, and *-h(h)-*. It follows from an example like Hitt. *pahhs-* 'protect' vs. Lat. *pāstor*, OCS *pasti*, etc. (§ 39) that Anatolian must have separated from the IE linguistic community at a time when the change *_-eH-C-_ > *_-ē_^{x}_-C-_ had not yet taken place throughout the whole of the Indo-European speaking territory.[227] It should also be noted that we ignore whether a development of the type *_-eH-C-_ > *_-_$\bar{e}^x$_-C-_ occurred in those cases in which a 'laryngeal' was lost in Anatolian, e.g. _pas-_ 'swallow' (if from *peH_3- 'drink'), _gnes-zi (ga-ni-es-zi)_ < IE *_g' n_eH_1_-s-_ (§ 44), or _hassa-_ 'hearth' (if from *H_2eHs-, cf. Lat. _āra_, etc., § 32). We know next to nothing about a possible distinctive vowel quantity in Hittite, cf. Catsanicos. _BSL_ LXXXI, p. 160, and note 226. For the plene-writing, see § 92, _Remark_ above.[228]

---

[227] Methodologically, the agreement between *all* the non-Anatolian IE languages in showing full grade forms such as *_dhē-_ 'put', *_stā-_ 'stand' and *_dō-_ 'give' inevitably presupposes that orig. IE *_-eH-C-_ had become *_-ē_^{x}_-C-_ in non-Anatolian Indo-European. This has been pointed out by E.H. Sturtevant, *IHL*, 29: '..., the comparative method assumes and must assume that when several related languages have a common feature this feature is to be ascribed to the parent language unless subsequent study proves that this is impossible. Among the clearest results of IE comparative grammar are the positing of *ē, ō, ā, ī* and *ū* in Proto-IE in words in which the study of Hitt. indicates an original short vowel followed by a laryngeal; ...' Strangely, Mayrhofer's comment, *Kratylos* 36, 1991, 93, n.10, on § 96 in my book takes no notice of the methodological

The vowel colouring brought about by the IE 'laryngeals' (e.g. */H_2e/ > *[H_2a], */eH_2/ > *[aH_2]) is attested both in Anatolian and in non-Anatolian Indo-European, cf. Hitt. _har(k)-_ 'hold, have' : Lat. _arceo_ 'enclose' (< *H_2ark-), Hitt. _newahh-_ 'make new': Lat. _(re-)nouā-re_ (< */newe-H_2-/).[229] The ablaut *_e_ > *_o_, which is later than the colouring

---

requirement in question: 'Die weitere Argumentation auf dieser Seite, wonach "certain facts" (?) trotzdem darauf schliessen lassen, dass das Anatolische sich von der übrigen idg. Sprachgemeinschaft früh abgesetzt habe, verstehe ich nicht. Dass heth. /pahhs-/ gegenüber lat. _pās°_ den Laryngal noch als /h(h)/ zeige, ist für mich nicht prinzipiell von iir. *_pántah_$_2$_-s_/*_path_$_2$_-ás_ in dem "particularly convincing example" (88) av. _pantå/paθō_ oder von ved. _janHa-_ ... verschieden; die nicht-anatolischen Sprachen Vedisch und Avestisch hatten noch diese Konsonantenwerte, auch wenn ihre Schriften sie nicht bezeichnen.' In the case of the word for 'path', scholars intent on 'maintaining the validity of the comparative method'—to use Sturtevant's words (ibid. 29)—do not have any other alternative than to posit nom. sg. *_pént_$\bar{e}^x$_-s_ (< *_pénteH-s_) for _non-Anatolian IE_. That *_H_ in _other_ positions survived well into a dialectal stage of non-Anatolian IE is a different matter altogether, cf. e.g. the specifically Indo-Ir. development of voiceless aspirates which took place in earlier sequences of voiceless plosive plus *_H_. Despite Mayrhofer's query it remains a _fact_ that the change *_-eH-C-_ to *_-_$\bar{e}^x$_-C-_ had not been completed at the time when Anatolian separated from the IE linguistic community, cf. a correspondence like Hitt. _newahh-mi_ 'I make new' = non-Anatolian IE (precons.) *_newā-_ (in Lat. _-novā-re_, OHG _niuwōn_, Gk. _neân_) — 'among the strongest pillars of the laryngeal theory, ...' according to J. Puhvel, _EvfL_, 89.

[228] For Eichner's views on vowel quantity in Anatolian and Hittite, see _KZ_ 99, p. 206, note 10, where he proposes a development of this type: * $H_2iH_{1/3}sáH_2$- > Proto-Anatolian *$H_2\bar{\imath}s\bar{a}$-, whence *H_2is- (by a Proto-Anat. shortening of an unstressed long vowel) > Hitt. _hissa-_, cf. Skt. _īṣā́-_ 'pole of a carriage' (cf. §31 above). Eichner's hypothesis can neither be conclusively proved nor disproved. See, however, Lindeman, _HS_ 102, 279ff.

[229] There is nothing to support Carruba's conjecture (_Archivio Glottologico Italliano_ LXVII, fasc. 1-34, 1992, 165, n. 18), according to which the vowel in the sequence *$H_{2/3}e$, but not the one in the sequence *$eH_{2/3}$, underwent 'laryngeal' colouring in Hittite,

of */e/ by neighbouring *H_2 and *H_3 (cf. § 40 a.), is found both in Anatolian (e.g. Hitt. _kasza_ 'hunger': _kisduwant-_ 'hungry', Kuryłowicz, _PICL_ 8, p. 230) and outside Anatolian. The regular IE alternation between a full grade (e.g. 3 sg. _*g^{w}hén-ti_ 'strikes') and a zero grade (3 pl. _*g^{w}hn-énti_) is continued in Anatolian (Hitt. _kuenzi_ 'strikes': 3 pl. _kunanzi_) and in non-Anatolian IE (Vedic _hánti_ 'strikes': 3 pl. _ghnánti_).

§ 97 The development of an anaptyctic vowel in sequences of the type */CHC-/ appears to have occurred in a dialectal period of non-Anatolian Indo-European, at a stage when all the 'laryngeals' of different colour had fallen together phonetically: the fact that all languages (with the exception of Greek) present only _one_ anaptyctic vowel type (Indo-Iranian _i_, otherwise _ă_) speaks in favour of this interpretation. Consequently, the Greek triple representation of Schwa (_thetós, statós, dotós_) must be a Greek innovation.

The assumption of a merger of all 'laryngeals' in a dialectal period of non-Anatolian Indo-European finds further support in the following: (1) the timbre of a Greek or Armenian prothetic vowel of indisputably 'laryngeal' origin (i.e. where the Greek or Armenian prothesis corresponds to a preserved initial _h-_ of an etymologically related word form in Anatolian) is always _a-_ (cf. § 67); (2) the voiceless aspirates appear to be a specifically Indo-Iranian development which took place in earlier sequences of voiceless plosive plus *H (into which the original IE 'laryngeals' had merged); cf. Polomé, Reflexes of Laryngeals in Indo-Iranian, p. 244. For details regarding the Indo-Iranian development of *$b + H$, *$d + H$, *$g + H$ into _bh, dh, gh_, see above § 95.

§ 98 A corresponding syncretism of the different IE 'laryngeals' appears not to have occurred in Anatolian: here the (voiceless) *H_2 and *H_3 would seem to have fallen together in _h(h)_, whereas *H_1 can be shown to have disappeared in many cases. The source of the single _-h-_ in words like _wehzi_ 'turns', _mehur_ 'time', _sah-_ 'clog (with dirt)', etc. has not been decided beyond doubt: _-h-_ may here represent an IE voiced 'laryngeal' (cf. § 92).

---

e.g. IE *H_2_e-_ > Hitt. _ha-_, but IE *_e_H_2 > Hitt. _eh_.

There is no non-ambiguous trace of a vocalization of interconsonantal 'laryngeals' in Hittite, cf. Hitt. *walhhzi* < **wélH-ti* and similar forms (§ 84). As we have seen (§ 67), a preconsonantal 'laryngeal' is not vocalized in word-initial position in Hittite, cf. *hster(-s)* vs. Gk. *astḗr*.

§ 99 The disappearance of **H* (into which the different 'laryngeals' had merged in a dialectal period of non-Anatolian Indo-European) entailed a compensatory lengthening of the preceding short vowel in the sequences **-eH-C, *-aH-C, *-oH-C*, and **-eH#, *-aH#, *-oH#* > **-ē-C, *-ā-C, *-ō-C*, and **-ē#, *-ā#, *-ō#*, respectively.[230] This development took place in all the non-Anatolian dialects. Similarly, the triad **e, *a, *o* goes back to **He, *Ha, *Ho*. It cannot be decided beyond doubt whether the loss of **H* occurred earlier in the position before a vowel (or a syllabic resonant) than in preconsonantal position (cf. § 51, *Remark* above).

§ 100 Similarly, the sequences **-ṛH-C, *-ḷH-C, *-ṃH-C* and **-ṇH-C* may have developed regularly into the long phonemes */ṝ/, */ḹ/, */ṃ̄/ and */ṇ̄/ in non-Anatolian Indo-European. Many contemporary scholars pointing to the phonologic discrepancy between forms like Lat. *grānum* and Skt. *jīrṇá-*, or Lat. *-gnātus* and Skt. *jātá-*, reject the assumption of such long phonemes for Indo-European as unconvincing, cf. Kuiper, *Sprache* 7, p. 20,[231] who writes: 'Es verdient dabei Beachtung, dass schon die Diskrepanz zwischen lat. *grānum* : ai. *jīrṇá-* einerseits, und lat. *-gnātus*: ai. *jātá-* anderseits entschieden gegen die Annahme von ursprachlichen *ṝ* und *ḹ* spricht. Im Lateinischen, wo *ṇ* nicht vokalisiert wurde, entwickelten sich **ṛH* und **ṇH* vor Konsonanten ganz parallel zu **raH* > *rā* und **naH* > *nā*. Im Urindoiranischen dagegen wurde *ṇ* schon früh zu *a* vokalisiert, wodurch *ṇH* sich zwangsläufig als *aH* weiterentwickeln musste, und daher vor Konsonanten schliesslich zu *ā* wurde.' However, a strong argument against Kuiper's phonetic speculation can be found in the attested development in Indo-Iranian of a prevocalic sequence **CṇH-*: **CṇHe/o-* has given Vedic *Cana-* (with prevocalic **ṇ > an*), not **Cā- < *Ca(H)a-*!, e.g. Vedic pres. *sanóti* 'gains' < Indo-Iranian **sanau-ti* < IE **sṇH-éw-ti-*) : ptc. *sātá-* (<**sṇH-tó-*).[232]

---

[230] Cf. Kuryłowicz, *Problèmes*, p. 197: 'L'opinion suivant laquelle *certaines* voyelles longues proviennent d'une contraction de brèves avec ə̯ antéconsonantique est confirmée par les exemples où ces longues s'observent *in statu nascendi*, cf. ved. *dvīpa-, sūnara-, āyan* (augment + *yan*), etc.' For these Vedic forms, see § 50 above.

[231] See also Kuryłowicz, *Apophonie*, p. 393, *Problèmes*, 182f., note 7, and Mayrhofer, *IdgGr.* 1, p. 160.

The fact that the non-Anatolian dialects present different phonologic reflexes of */ṝ/, etc. is not a strong objection against the assumption of the earlier existence of such phonemes. Finally, it should be pointed out that a phoneme /ṝ/ exists in Serbo-Croatian (cf. Troubetzkoy, *Principes de Phonologie*, traduction J. Cantineau, p. 62). See, however, the discussion, above § 85 a., according to which Lith. *gìrtas* might continue **gir*V^x*ta-* (from older **girH-ta-* < Balto-Slavic **gṛH-ta-*) with an anaptyctic vowel (V^x), whence **gīrta-*, by compensatory lengthening. See also § 85 b. and n. 198.

The loss of **H* in a sequence **CṚH-V-* resulted in */CṚ-V-/ with a prevocalic phoneme */Ṛ/, cf. § 36 above.

§101 On the basis of the preceding observations I venture to suggest the following tentative chronology:

1. Colouring: */eH$_1$/, */eH$_2$/, */eH$_3$/ > $*[eH_1]$, $*[aH_2]$, $*[oH_3]$
2. Zero grade: $*CeH_1C$-, $*CaH_2C$-, $*CoH_3C$- > $*CH_1C$-, $*CH_2C$-, $*CH_3C$-
3. Qualitative ablaut: $*eH_1 > *oH_1$
   (The order of 2 and 3 may have been the reverse, cf. § 40).
4. Anatolian separates from the IE linguistic community.

5. Syncretism of the 'laryngeals' under one colour in non-Anatolian

---

[232] Forms of the type Gk. *(w)rag(ênai)*, Lat. *ratus, laxus*, Goth. *lats*, OHG *slaf, blat*, etc. are not phonetically regular developments, but represent forms reshaped on the model of **dha-* (< **dhə-*): **dhē-*, see Kuryłowicz, *Apophonie*, pp. 175, 209 and 217, and see above § 49 b. Cf. M. Nyman, *IF* 90, 59 f.

Indo-European:[233]
*$C\acute{e}H_1C$, *$C\acute{a}H_2C$, *$C\acute{o}H_3C$ > */CéHC/, */CáHC/, */CóHC/
*CH_1C-, *CH_2C-,*CH_3C- > */CHC-/

6. Loss of **H* in a dialectal period of non-Anatolian Indo-European (possibly first in position before a vowel). The disappearance of **H* entailed a compensatory lengthening of a preceding short vowel in the sequences *-e^x*H-C* and *-e^x*H#*. Other developments that occurred at this stage are: (a) *#HC- > #aC-* in Greek and Armenian; (b) */CHC-/ develops an anaptyctic vowel (> Indo-Iranian *CiC-*, otherwise *CaC-)*; (c) **pH-*, **tH-*, **kH-*, and **bH-*, **dH-*, **gH-* > Indo-Iranian *ph, th, kh*, and *bh, dh, gh*, respectively.

§ **102** Kuiper, *Sprache* 7, 14 ff. (cf. *IIJ* 18, 241 ff.), assumes the maintenance of a consonantal 'laryngeal' in prehistoric Indic. Thus, a gen. sg. of the type Ved. *jánmanas* (: nom. acc. sg. *jánima* 'race') is said to presuppose a specifically Indic loss of a consonant **H*. Kuiper finds support for his hypothesis in Vedic forms like *ápratītta-* 'not given back', *párītta-* 'given away', *párītti-* 'delivering' the long *-ī-* of which he takes to be the result of a 'laryngeal' metathesis, i.e. **prati-dH-ta-* > **prati-Ht-ta-*, etc. (*Sprache* 7, p. 28). Similarly, he thinks that a consonantal 'laryngeal' has been lost in Gatha Avestan *ptā, fəδroi* (cf. § 85 above, for the Iranian forms). Kuiper does not, however, indicate under which phonologic conditions an interconsonantal 'laryngeal' could occur partly in its 'vocalized' form (> Indic *i*), and partly in its consonantal form (e.g. in the supposed preform **prati-dH-ta-* vs. **də-tó-* > Vedic *di-tá-*). It is further important to note that forms like *carkṛtí-* 'praising' (: *kīrtí-* 'fame'), *súṣuti-* 'an easy birth' (: inf. *sūtave* 'to generate') do not—despite Kuiper, ibid., 24 ff., and Mayrhofer, *IdgGr.* 1, 150 f.—warrant the assumption of a specifically Indic loss of **H* as such forms may represent old *aniṭ*-roots: for the morphologic alternation of *seṭ*-root forms with *aniṭ*-root forms in the parent language see the discussion by Lindeman, A 'laryngeal' Note on Greek *hēûron*, *Glotta* (forthcoming) who equates the alternation **g'en-* ~ **g'en-*H_1- 'beget' with that of e.g. _*g'hew-_ (Gk. _khéwō_) ~ _*g'hew-d-_ (Goth. _giutan_, Lat. _fundō_, _fūdī_), etc.

---

[233] Similarly A.R. Bombard, *Orbis* XXV, p. 232, *Festschrift Szemerényi* I, p.128; cf. Lindeman, *Triple representation*, p. 70.

For a different explanation of the alternation between _janman-_ and _janiman-_ in Vedic, cf. the discussion by Lindeman, _IF_ 91, 79 ff. (and cf. § 87 above): since _*H_ represents a consonantal element inherently less sonorous than the resonants _*r_, _*l_, _*m_, _*n_, it follows that an IE sequence of the type */g'énHmen-/ must be interpreted (according to Sievers' Law) as being phonetically _*[g'énHṃen-]_ (structurally parallel to the _*g'enHio-_ underlying Vedic _jániya-_ (§ 87)). After the loss of the prevocalic _*H_ the resulting _*g'énṃen-_ became _*g'enmen- (> ján-man-)_ by some sort of 'converse of Sievers' Law' (cf. Vedic _ján-ya-_ ~ _jániya-_).

The variant _jáni-man-_ may have been created according to the following analogical proportion: precons. _aniṭ_-form[234] _ján(-tva-)_ : _ján(-man-)_ = precons. _seṭ_-form _jáni(-tva-): x; x = jáni-man-_.

For the Vedic forms _da-dh-más_ (< √_dhā-_ 'put') and _da-d-más_ (< √_dā-_ 'give') see the discussion in § 85 above.

Vedic _asnás_, gen. sg. of _ásṛk_ 'blood', admits, perhaps, of a similar explanation. On the strength of Hitt. gen. sg. _is-ha-na-a-as_ (: nom. acc. sg. _eshar_ 'blood'), we may posit the oldest IE gen. sg. of */H$_1$éHsr-/ as */H$_1$sHnés/ = phonetically _*H$_1$sHṇés_ (with a syllabic nasal after the initial consonant cluster _*H$_1$sH-_ in accordance with Sievers' Law). The presyllabic _*H_ is lost, and _*Hs(H)ṇés_ gives _*(H)sṇés_ > _*sṇés_ which now takes over the _*e-_ of the nom. acc. sg. _ésṛ-_ and becomes _*esṇés_ > _*esnés_ (Vedic _asnás_) by the 'converse of Sievers' Law'. It should be noted that the later Hitt. gen. sg. _esnas_ has likewise taken over the _e_-vocalism of the nom. acc. sg. _eshar_ (G. Hart, _BSOAS_ XLIII, p. 11). Puhvel, _HED_ 1-2, 313, thinks that '_asnás_ can be explained as back-formed secondarily on the basis of a suffixless locative _*ásan_ < _*esHṇ_ (cf. _áhar_, gen. _áhnas_, loc. _áhan_.'

For the reasons given here, Gk. _thalerós_ 'blooming, fresh, etc.' and Armenian _dalar_ 'fresh, green' cannot be from IE _*dhalH$_1$ró-_ with a 'vocalized' _*H$_1$_ > Gk. _-e-_, Arm. _-a-_, as assumed by Mayrhofer, _IdgGr._ 1, p. 127, note 118, with further references. */dhalH$_1$ró-/ = phonetically _*dhalH$_1$ṛo-_ may in effect underlie Arm. _dalar_ since prevocalic _*ṛ_ gives

---

[234] Cf. Lat. _gens_, _gentis_.

Arm. _ar_ (i.e. *_dhalH_$_1$_r̥ó-_ > *_dhalr̥ó-_ (with loss of the presyllabic 'laryngeal') > pre-Arm. *_dalaro-_, etc.). Gk. _thalerós_ may be to an original *_thálus_ (cf. _tháleia_ f. 'florissante, riche' of banquets) as _glukerós_ is to _glukús_, see Chantraine, _DELG_, p. 420. Cf. _Triple representation_, p. 38.

§ **102 a**. Since *_H_ represents a consonantal element inherently less sonorous than the resonants, it follows that an IE sequence of the shape */tórHmo-/ (< √_terH-_ 'bore, pierce', cf. Gk. _tére-tron_ 'borer', _trē-tós_ 'bored') must be interpreted (according to Sievers' Law) as being phonetically *[_tórHm̥o-_], structurally parallel to the *[_g'énHio-_] underlying Vedic _jániya-_ (§§ 87, 102). After the loss of the presyllabic *_H_ the resulting *_tórm̥o-_ became *_tórmo-_ (> Gk. _tórmos_ 'hole'), by the 'converse of Sievers' Law', cf. Vedic _ján-ya-_ ~ _ján-iya-_, see above § 102, and cf. Lindeman, _IF_ 91, 79ff.

The same explanation applies to _pórnē_ 'harlot' (vs. aor. inf. _perás(s)ai_ 'sell abroad', cf. OIr. present _renaid_ 'sells' (< older *_rinǎ-ti_) which can go back ultimately to earlier *[_pórn̥ā_] < IE *[_pórHnaH_]. Another such Greek form is _tólma_ 'courage' (cf. Gk. _tala-_, _tlā-_ 'bear').[235]

§ **102 b**. It is an indisputable fact of IE phonology that a 'laryngeal' was not regularly lost in a sequence *_-oRHRV-_ in the parent language: this can be seen from a form such as Lith. _kálnas_ 'mountain, hill' the acute accent of which testifies to an originally long root syllable (*_kāln-_) in Baltic, provoked by the loss of a medial 'laryngeal': see the discussion by Stang, _VerglGramm._, 123, 129 (with further references). Cf. above § 85 b. The same explanation applies to Slavic forms such as Russ. _solóma_, S-Cr. _slȁma_ 'straw' reflecting Proto-Slavic *_sālm-_ < Balto-

---

[235] For other explanations of the cited Greek forms see Szemerényi, _Syncope_, 285f.; Cowgill, _EvfL_, 159; Kuryłowicz, _IdgGr_. II, § 323, n. 43. There is no proof that Gk. _telamṓn_ 'leathern strap, belt' reflects directly IE */telH$_2$mōn/: _telamṓn_ may have been analogically created _in Greek_ to the (preconsonantal) full grade stem _tela-_ (seen in the s-aor. _telássai_ ·_tolmêsai_, _tlênai_ (Hsch.), see Chantraine, _DELG_, 1088f.) after the model of other full grade formations such as _keuthmṓn_ 'hole', _leimṓn_ 'meadow', for which see Chantraine, op. cit. 1100.

Slavic **šālm-* from IE */k'olHm-V-/ (cf. Lat. *culmus* 'straw', OHG *halam*, Gk. *kálamos* 'a reed'), and see Pokorny, *IEW*, 612.

It is not easy to explain exactly how e.g. IE */kólHno-/ developed into Lith. *kálna-*. Referring to § 85 b above, we may assume that the IE preform */kólHno-/ = phonetically *[*kólHn̥o-*] developed into Balto-Slavic **kalHn̥a-* (with IE **o* > Balto-Slav. *a* before the loss of **H* in an internal syllable), and that, after the loss of the presyllabic **H*, **kalHn̥a-* > (trisyllabic) **kaln̥a-* was reduced—prior to the development of syllabic **R̥* > Balto-Slav. **iR*—, possibly by some sort of 'converse of Sievers' Law', to (disyllabic) **kālna*, by compensatory lengthening after the loss of the medial syllable. Similarly, the 'converse of Sievers' Law' would seem to have changed the orig. (hiatic) *[*koln̥o-*] (< non-Anatolian IE *[*kolHn̥o-*] after the loss of the 'laryngeal') to the disyllabic *[*kolno-*] underlying Lat. *collis* 'a hill'.

§ 103 In originally medial syllables we do not find any vestige of a vocalized 'laryngeal' in Germanic, see Meillet, *Les dialectes indo-européens*, p. 64, W.H. Bennett, *Studies Arch. H. Hill* III, 13 f. (Lehmann *PIEPh.*, 53 ff., tries to show that **H* was preserved for a long time in the vicinity of *r, l, m* and *n* in Germanic. The 'evidence' that he adduces is, however, mostly uncertain and unclear. It should be noted that OE *hærfest* 'autumn' does not presuppose Gmc. **harubist-* (with *u* allegedly from *H*), but goes back to Gmc. **harbist-*).

It is generally assumed that IE *ə in originally *final* syllables gave Gmc. *-u-*, see Meillet, ibid., 64f., Bennett, op. cit. 14f. Thus, the *u* of OHG *anut* 'duck' is supposed to represent the *ə of an IE nominative sg. form **anət-s* (< **H_2énHt-s*), cf. Lat. *anas*. This, however, seems extremely doubtful to me for the following reasons: OHG *anut* cannot justify the reconstruction of a Germanic stem **anuđ-*[236] since there is no way of proving that its *u* is more original than the *i* attested by OHG *enit*, OE *ænid, ened*, cf. OS *anad*. Theoretically, OIcel. *ǫnd* can represent

---

[236] My colleague Professor H. Bjorvand informs me that the nom. acc. plural form attested by OIcel. *endr* is a strong argument against the restitution of a Gmc. *i*-stem (**anuđi-*, see e.g. Kluge, *Etym Wörterb der deutschen Sprache*,^{23} p. 222) since a *Common Nordic* transition of an *i*-stem to the consonantal inflection (cf. OSwed. *ænder*) would be quite unusual.

Gmc. _*anuđ-_, _*aniđ-_, probably even _*anađ-_, cf. _ǫln_ 'ell' (~ _alin_, cf. Goth. _aleina_ 'pêkhus'). The _archaic_ form _ǫnþ_ (Noreen, _Altisl. Gramm._, p. 285) proves that a vowel has been lost after the _n_. It would seem, therefore, that IE _*_H_2_énHt-_ gave Germanic _*an_V^x_đ-_ whose short predesinential vowel (V^x) probably arose _in Germanic_ by some sort of anaptyxis after the loss of the medial 'laryngeal'.[237] The supposed Germanic anaptyxis may find a close phonologic parallel in Balto-Slavic, cf. the discussion (in § 85 a) of Lith. _gérti_, Latv. _dzer̂t_.

---

[237] For the reasons discussed above, OIcel. _mjǫk_ 'much' is probably not to be equated with Hitt. _mēk_ < IE _*meg'_H_2. If _mjok_ is not from _*meg'-e_H_2, its vocalism might have been taken over from Gmc. _*felu_ (> OIcel. _fjǫl-_), cf. Pokorny, _IEW_, 709.

Select Bibliography

For the system of abbreviations, see p. 9 ff above

Adams, D.Q., Tocharian A *āstär*, B *astare* 'clean, pure' and PIE $*h_2eh_x(s)$- 'burn', *Kuryłowicz Memorial Volume* I, 207 ff

Adrados, F.R., More on the Laryngeals with labial and palatal Appendices, *Folia Linguistica Historica* II/2, (Societas Linguistica Europaea, 1981), 191 ff

Adrados, F.R., Laryngale mit Appendix?, IBS Vorträge und kleinere Schriften 60, Innsbruck, 1994

Andreev, N.D., Ranneindoevropejskie korni s veljarnymi spirantami, *VJA*, 1978, 5, 46 ff

Anttila, R., The pitfalls of *ananke*, *Sprache* 18, 1972, 34 ff

Bader, F., Relations de structure entre les désinences d'infectum et de perfectum en latin, *Word* 24, 1968, 14 ff

Bader, F., Le traitement des hiatus à la jointure des deux membres d'un composé nominal en mycénien, *Acta Mycenaea, Actes du 5. colloque international des études myceniennes*, ed. M.S.Ruiperez, Universidad de Salamanca, 1972, 141 ff

Bader, F., Noms de bergers de la racine **pā-*, *Studies Palmer*, 17 ff

Bader, F., Traitements de laryngales en groupe: allongement compensatoire, assimilation, anaptyxe, *La reconstruction des laryngales*, 1 ff

Bader, F., Autour de gr. *aíō*, *oîmai*: étymologie, prosodie, système verbal, *BSL* LXXXIX, 1994, 193 ff

Bader, F., Laryngales et prosodie: traitements de groupes à laryngale et substitution de deux brèves à une longue dans l'hexamètre grec, *Kuryłowicz Memorial Volume* I, 317 ff

Bammesberger, A., The Laryngeal Theory and the phonology of Prehistoric Greek, *The New Sound of Indo-European*, 35 f.

Barton, Ch.R., Hittite *me-ri-ir*, *epp-* and a Note on the Ablaut of Root Verbs, *KZ* 98, 1985, 13 ff

Barton, Ch.R., Gk. *ắesạ*, Arm. *agay* and PIE $*h_1$, *Laryngaltheorie*, 49 ff

Beckwith, M.C., Greek *hēûron*, Laryngeal Loss and the Greek Reduplicated Aorist, *Glotta* LXXII, 1995, 24 ff

Beekes, R.S.P., *The Development of the Proto-Indo-European Laryngeals in Greek*, (Janua Linguarum Studia Memoriae Nicolai Van Wijk Dedicata. Series Practica 42), Mouton, 1969

Beekes, R.S.P., The Nominative of the Hysterodynamic Noun-Inflection, *KZ* 86, 1972, 30 ff

Beekes, R.S.P., *H_2O*, *Sprache* 18, 117 ff

Beekes, R.S.P., *Mṓnukhes híppoi*, *Orbis* 20, 138 ff

Beekes, R.S.P., The Neuter Plural and the Vocalization of the Laryngeals in Avestan, *IIJ* 23, 1981, 275 ff

Beekes, R.S.P., PIE 'sun', *MSS* 43, 1984, 5 ff

Beekes, R.S.P., Some Greek *aRa*-forms, *MSS* 34, 9 ff

Beekes, R.S.P., Intervocalic Laryngeal in Gatha-Avestan, *Bono homini donum*, 47 ff

Beekes, R.S.P., On Laryngeals and Pronouns, *KZ* 96, 201 ff

Beekes, R.S.P., Laryngeal Developments: A Survey, *Laryngaltheorie*, 59 ff

Beekes, R.S.P., The nature of the Proto-Indo-European laryngeals, *The New Sound of Indo-European*, 23 ff

Beekes, R.S.P., Le type gotique *bandi*, *La reconstruction des laryngales*, 49 ff

Beekes, R.S.P., Who were the laryngeals?, *In honorem H. Pedersen*, 449 ff

Beekes, R.S.P., *Comparative Indo-European Linguistics. An Introduction*. John Benjamins, 1995

Benveniste, E., Le redoublement au parfait indo-iranien, *Symbolae linguisticae in honorem Georgii Kuryłowicz*, Warszawa, 1965, 25 ff

Bomhard, A.R., The Placing of the Anatolian Languages, *Orbis* 25, 199 ff

Bomhard, A.R., Typological Studies and the Identification of the Indo-European Laryngeals, *Festschrift Szemerényi* I, 1979, 123 ff

Bomhard, A.R., An etymological Note: PIE. **Hs-tér-* 'star', *JIES* 14, 1986, 191 f

Bomhard, A.R., The aspirated Stops of Proto-Indo-European, *Diachronica* 3, 1986, 67 ff

Burrow, T., *The Sanskrit Language*, London, 1955.

Campanile, E., Sulla preistoria del paradigma di *bé* e *ben* in irlandese antico, *Incontri Linguistici* 3, 1, 1976-77, 21 ff

Cardona, G., Review of O. Szemerenyi, Syncope, *Lg*. 43, 1967, 757 ff

Catsanicos, J., A propos des adjectifs hitt. *šu-hmili-* et véd. *sū-máya-*: quelques remarques sur le traitement du groupe °VH_xC° à la jointure des composes, *BSL* LXXXI, 1986, 121 ff

Catsanicos, J., *Recherches sur le vocabulaire de la Faute*, 1991

Christol, A., From Phonetics to Phonology. The Case of Laryngeals, *Phonological Reconstruction*, 17 ff

Christol, A., Les laryngales entre phonétique et phonologie, *La reconstruction des laryngales*, 101 ff

Colarusso, J., Typological Parallels between Proto-Indo-European and the Northwest Caucasian Languages, *Bono homini donum*, 475 ff

Collinder, B. Die indo-uralische Sprachvergleichung und die Laryngaltheorie, *Sprache* 13, 1967, 179 ff

Collinge, N.E., *Collectanea linguistica*, (Janua linguarum Series Minor 21), The Hague, 1970

Connolly, L.A., Altnordisch *e* < indogermanisch *i*, *KZ* 97, 1984, 267 ff

Connolly, L.A., Laryngeal metathesis: An Aryan peculiarity?, *The New Sound of Indo-European*, 43 ff

Cowgill, W., The first person singular medio-passive of Indo-Iranian, *Pratidānam*, 24 ff

Cowgill, W., Italic and Celtic Superlatives and the Dialects of Indo-European. *Indo-European and Indo-Europeans, Papers presented at the 3rd Indo-European Conference at the University of Pennsylvania*, Philadelphia, 1970, p. 148, note 30

Crossland, R.A., A Reconsideration of the Hittite Evidence for the Existence of "Laryngeals" in Primitive Indo-European, *TPS*, 1951, 88 ff

de Lamberterie, Ch., À propos de hittite *harganau-*, *Sprache* 35, 1991-1993, 128 ff

Demiraj, B. Bemerkungen zur Entwicklung der anlautenden idg. Laryngale im Albanischen, *In honorem H. Pedersen*, 57 ff

Djahukian, G.B., A Variational Model of the Indo-European Consonant System, *HS* 103, 1990, 1 ff

Eichner, H., Die Etymologie von heth. *mehur, MSS* 31, 1973, 53 ff
Eichner, H., Die urindogermanische Wurzel *H_2reu* 'hell machen', *Sprache* 24, 144 ff
Eichner, H., Die Vorgeschichte des hethitischen Verbalsystems, *Fachtagung* V, 71 ff
Eichner, H., Phonetik und Lautgesetze des Hethitischen - ein Weg zu ihrer Entschlüsselung, *Fachtagung* VI, p. 128, note 41
Eichner, H., Anatolisch und Trilaryngalismus, *Laryngaltheorie*, 123 ff

Fischer, H., Lateinisch *gravis* "schwer", *MSS* 41, 1982, 33 f
Forssman, B., *Untersuchungen zur Sprache Pindars*, Wiesbaden, 1966, 145 ff
Forssman, B., Nachlese zu *ósse, MSS* 25, 39 ff
Forssman, B., Vedisch *apāmārgá-*, gr. *apomórgnumi*, *Kuryłowicz Memorial Volume* I, 247 ff
Francis, E. D., Greek *éblēn, Glotta* LII, 1974, 11 ff
Fritz, M., Das urindogermanische Wort für 'Nase' und das grundsprachliche Lautgesetz **RHV* > **RV*, *HS* 109, 1996, 1 ff.

Gamkrelidze, T.V., Hittite and the Laryngeal Theory, *Pratidānam*, 89 ff
Gamkrelidze, T.V., and Ivanov, V.Vs., *Indoevropejskij jazyk i indoevropejcy. Rekonstrukcija i istoriko-tipologičesky analiz prajazyka i protokul'tury* I, Tbilisi, 1984, 152 ff
Georgiev, V., Die indoeuropäische *eH_2y*-Klasse, *Symbolae linguisticae in honorem Georgii Kuryłowicz*, Warszawa, 1965, 81 ff
Gil, J., El genitivo en *-i* y los origenes de la declinación temática, *Emerita* 36, 1968, 25 ff
Gippert, J., Zur Phonetik der Laryngale, *In honorem H.Pedersen*, 455 ff
Gippert, J., Die Glottaltheorie und die Frage urindogermanisch-kaukasischer Sprachkontakte, *In honorem H. Pedersen*, 107 ff
Gotō, T., Griechisch *elephaíromai*, *Kuryłowicz Memorial Volume* I, 365 ff
Greppin, J.A.C., Kuryłowicz and Hittite *h*, and further extention on to Armenian, *Kuryłowicz Memorial Volume* I, 313 ff

Gusmani, R., Ittito, teoria laringalistica e ricostruzione, *HethIdg.* 63 ff

Gusmani, R., Tracce di laringali in Uralico?, *Incontri Linguistici* 17, 1994, 33 ff

Hammerich, L.L., Ketzereien eines alten Indogermanisten, *To Honor Roman Jakobson* II, 839 ff

Hamp, E.P., On some Troublesome Indo-European Initials, *Studies in Historical Linguistics in Honor of G.S.Lane*, 146 ff

Hamp, E.P., IE. **Hu̯ed(h)-*, *Sprache* 14, 1968, 156 ff

Hamp, E.P., Palaic *ha-a-ap-na-aš* 'river' *MSS* 30, 1972, 35 ff

Hamp, E.P., *dhugHtēr* in Irish, *MSS* 33, 1975, 39 ff

Hamp, E.P., On Greek 'Prothetic' Vowels, *MSS* 37, 1978, 59 ff

Hamp, E.P., IE. *$g^{w}reH_{a}uon$-, *MSS* 38, pp. 4-43

Hamp, E.P., *$g^{w}eiH_{o}$- 'live', *Studies Palmer*, pp. 87-91

Hamp, E.P., Indo-European *$(H_{e})op$-, *MSS* 40, 1981, 39 ff

Hamp, E.P., IE. *meH_{a}-, *MSS* 43, 1984, 45 f

Hamp, E.P., Indo-European 'bone' Reconsidered, *KZ* 94, 1984, 197 ff

Hamp, E.P., Ancient Macedonian voiced and spirant obstruents, *Glossologia* 9-10, 1990-1991, 7 f

Hamp, E.P., Final *Liquid + Laryngeal in Greek, *Glossologia* 2-3, 1983-1984, 163 ff

Hamp, E.P., The Laryngeal Heteroclites, *Festschrift K.H. Schmidt*, 35 ff

Hamp, E.P., Albanian *dha* 'gave', *Kuryłowicz Memorial Volume* I, 395 ff

Hoenigswald, H.M., Certain Semivowel Sequences in Greek, *Pratidānam*, 20 ff

Hoenigswald, H.M., An Aspect of Semivowel Asymmetry in Indo-European, *Bulletin of the Department of Comparative Philology and Linguistics University of Calcutta* 3, 1978, (Suniti Kumar Chatterji Memorial Volume), 14 ff

Hoenigswald, H.M., A Note on Semivowel Behavior and its Implications for the Laryngeals, *Laryngaltheorie*, 199 ff

Hoenigswald, H.M., On Indoeuropean laryngeals after word-initial *s*-, *Festschrift Szemerényi* III, 119 ff

Hoffmann, K., Zum Optativ des indogermanischen Wurzelaorists, *Pratidānam*, 3 ff

Hoffmann, K., Ein grundsprachliches Possessivsuffix, *MSS* 6, 1955, 35 ff

Hovdhaugen, E., Prothetic Vowels in Armenian and Greek and the Laryngeal Theory, *NTS* 22, 1968, 115 ff

Hovdhaugen, E., Review of Lindeman, Einführung in die Laryngaltheorie, *NTS* 25, 1971, 116 ff

Isebaert, L., À propos de hittite *išhunau* ‘arrière-bras’, *KZ* 96, 59 f

Isebaert, L., Tocharian Evidence for Laryngeal Metathesis in Indo-European, *Phonological Reconstruction*, 39 ff

Ivanov, V.Vs., *Obščeindoevropejskaja,* Review by Ambrazas, *Baltistica* 3, 1967, 117 ff

Ivanov, V. Vs., Otraženie dvux serii indoevropejskix glagol’nyx form v praslavjanskom, *Slavjanskoe jazykoznanie, 6. meždunarodnyj s"ezd slavistov*, Moskva, 1968, 225 ff

Jamison, St.W., The Quantity of the Outcome of Vocalized Laryngeals in Indic, *Laryngaltheorie*, 213 ff

Jasanoff, J.H., Observations on the Germanic Verschärfung, *MSS* 37, 77 ff

Jasanoff, J.H., The Position of the *ḫi*-Conjugation, *Hethldg.*, 79-90

Jasanoff, J.H., PIE *g’nē-* ‘recognize, know’, *Laryngaltheorie*, 227 ff

Job, M., Sound change typology and the ‘Ejective Model’, *The New Sound of Indo-European*, 123 ff

Job, M., Bemerkungen zur Diskussion über die Phonetik der idg.‘Laryngale’, *In honorem H. Pedersen*, 419 ff

Karaliūnas, S., Reflexes of IE $*h_2$*r̥tk’o-* "bear" in Baltic, *JIES*, 21, 1993, 367 ff

Keiler, A.R., *A Phonological Study of the Indo-European Laryngeals*, Den Haag-Paris, 1970

Kimball, S., $*H_3$ in Anatolian, *Festschrift for Henry Hoenigswald*, 1987, 185 ff

Kimball, S., Initial $*h_1$*s-* in Hittite, *Studies in Memory of Warren Cowgill*, 1987, 160 ff

Kimball, S. Analogy, Secondary Ablaut and $*OH_2$ in Common Greek, *Laryngaltheorie*, 241 ff

Klein, J.S., Proto-Indo-European $*g^{w}iH_{3}$- 'live' and Related Problems of Laryngeals in Greek, *Laryngaltheorie*, 257 ff

Klimov, G.A., Kartvelian Evidence for the Indo-European Laryngeal?, *IF* 99, 1994, 62 ff

Klingenschmitt, G., Griechisch *hīláskesthai*, *MSS* 28, 75-88

Klingenschmitt, G., Tocharisch und Urindogermanisch, *Fachtagung* V, 148 ff

Klingenschmitt, G., *Das altarmenische Verbum*, Wiesbaden 1982, esp. pp. 68, note 11; 90 ff.; 105, note 27; 167, note 13

Knobloch, J., Vorgriechische Grundzahlwörter, ermittelt unter Rückgriff auf die Glottaltheorie, *Kuryłowicz Memorial Volume* I, 381 ff

Ködderitzsch, R., Brygisch, Päonisch, Makedonisch, *Linguistique Balkanique* XXVIII, 1985, 4, 17 ff (Academie Bulgare des Sciences)

Ködderitzsch, R., Review of E. Campanile, Profilo etimologico del cornico antico, *ZCP* 36, 1977, 285 ff

Koivulehto, J., *Uralische Evidenz für die Laryngaltheorie*. Österreichische Akademie der Wissenschaften, Phil.-Hist. Kl., Wien 1991. Cf. the review by Lindeman, *IF* 98, 1993, 309 ff

Kortlandt, F., *Slavic Accentuation*, Lisse, 1975 (Peter de Ridder Press)

Kortlandt, F., On the History of Slavic Accentuation, *KZ* 92, 1978, 269 ff

Kortlandt, F., H_2o and oH_2, *Lingua Posnaniensis* 23, 1980, 127 f

Kortlandt, F., Greek Numerals and PIE. glottalic Consonants, *MSS* 42, 1983, 97 ff

Kortlandt, F., PIE. **H-* in Armenian, *AAL* 5, 1984, 41 ff

Kortlandt, F., Notes on Armenian Historical Phonology V, *Studia Caucasica* 7, 1987, 61 ff

Kortlandt, F., The laryngeal theory and Slavic accentuation, *Laryngaltheorie*, 299 ff

Kuiper, F.B.J., Traces of Laryngeals in Vedic Sanskrit, *India Antiqua*, 1947, 198 ff

Kuiper, F.B.J., Old East-Iranian Dialects, *IIJ* 18, 1976, 241 ff

Kuiper, F.B.J., Rigvedic *Súar* and *Tvám*, *IIJ* 30, 1987, 1 ff

Kuryłowicz, J., Autour de v. ind. *śāsti* et *sādhati, Mélanges Renou,* 433 ff

Kuryłowicz, J., Phonologisches zum indogermanischen *a*-Vokalismus, *Studies Palmer*, 127 ff

Kuryłowicz, J., *Problèmes de linguistique indo-européenne*, Polska Akademia Nauk Komitet Językoznawstwa Prace Językoznawcze 90. Wrocław, 1977, esp. pp. 179-190 and 211-217

Laroche, E., Les laryngales de l'anatolien: état des questions, Academie des Inscriptions & Belles-Lettres. Comptes rendus des séances de l'année 1986, 134 ff

Lehmann, W.P., On the reading of some *ya*-Suffixes in the Rigveda, *Pratidānam*, 39 ff

Lehmann, W.P., Kuryłowicz's use of structural relationships, *Kuryłowicz Memorial Volume* I, 1 ff

Lindeman, F.O., Notes sur les accusatifs indo-européens **gʷōm, *d(i)yēm, NTS* 21, 1967, 133 ff

Lindeman, F.O., Althochdeutsch *ier*, NTS 22, 1968, 74 ff

Lindeman, F.O., Bemerkungen zu den indogermanischen Langdiphthongen, *NTS* 22, 1968, 99 ff

Lindeman, F.O., Indo-européen **ōs* 'bouche', *To Honor Roman Jakobson* II, 1188 ff

Lindeman, F.O., Remarques sur la flexion des verbes du type de *tehhi* en hittite, *HethIdg.*, 153 ff

Lindeman, F.O., Le gén. sg. des themes féminins en *-ā* en vieil-irlandais, *ÉC* XIX, 1982, 159 f

Lindeman, F.O., Eine laryngalistische Bemerkung, *IF* 90, 1985, 62 ff

Lindeman, F.O., Eine phonologische Bemerkung zur "Vokalisierung" der "Laryngale" im Indogermanischen, *IF* 91, 1986, 79 ff

Lindeman, F.O., Tocharian and the Laryngeal Theory, *KZ* 100, 1987, 297 ff

Lindeman, F.O., Review of *Laryngaltheorie*, *HS* 102, 1989, 268 ff

Lindeman, F.O., Indo-European 'Laryngeals' and Fallacious Reasoning, *HS* 103, 1990, 17 ff

Lindeman, F.O., A Note on the Phonology of the Word for "Sheep" in Indo-European, *HS* 103, 1990, 20 f

Lindeman, F.O., On the Word for "Wool" in Indo-European, *HS* 103, 1990, 22 ff

Lindeman, F.O., Is there any conclusive evidence for a triple representation of Schwa in Armenian?, *AAL* 11, 1990, 25 ff

Lindeman, F.O., On the etymology of Latin *aqua*: a methodological note, *Glotta* LXIX, 1991, 192 f

Lindeman, F.O., A phonological note on Indo-European "laryngeals" and lengthened grades in Tocharian, p. 177 f. in: *Studia etymologica indoeuropaea Memoriae A.J. Van Windekens (1915-1989) dicata*, ed. L. Isebaert, Leuven, 1991

Lindeman, F.O., Indo-European 'laryngeals' and Hittite *hinik-*, *heu-*: some critical observations, *Linguistica* XXXIII Bojan Čop septuagenario in honorem oblata, Ljubljana, 1993, 113 ff

Lindeman, F.O., Phonology and 'Laryngeals': Some critical observations, *HS* 105, 1992, 161 ff

Lindeman, F.O., Phonology and 'Laryngeals': Some critical observations on 'lex Rix', *IF* 99, 1994, 42 ff

Lindeman, F.O., 'Laryngeal' Colouring and Lengthened Grade in Indo-European, *Festschrift K.H. Schmidt*, 110 ff

Lindeman, F.O., Old Irish *ithid*, *Ériu* XLV, 1994, 191 ff

Lindeman, F.O., On the etymology of Germanic **daw-jana-* 'to die', *Kuryłowicz Memorial Volume* I, 499 ff

Lindeman, F.O. and Berg, N., Much Cry and little Wool: Cypr. *leína* (?) < IE. *$H_{2/3}w\underset{\circ}{l}H_{1}n\acute{e}H_{2}$?, *HS* 108, 1995, 56 ff

Lubotsky, A., Gr. *pḗgnumi:* Skt. *pajrá-* and loss of laryngeals before mediae in Indo-Iranian, *MSS* 40, 133 ff

Lubotsky, A., La loi de Brugmann et *H_3e-, *La reconstruction des laryngales*, 129-136

Lubotsky, A., Against a Proto-Indo-European phoneme **a*, *The New Sound of Indo-European*, 53 ff

Lubotsky, A., Reflexes of intervocalic laryngeals in Sanskrit, *Kuryłowicz Memorial Volume* I, 213 ff

Lühr, R., Germanische Resonantengemination durch Laryngal, *MSS* 35, 73 ff

Martinet, A., Phonologie et "laryngales", *Phonetica, Journal International de Phonétique*, vol. 1, 1957, 7 ff

Mayrhofer, M., *Nach hundert Jahren. Ferdinand de Saussures Frühwerk und seine Rezeption durch die heutige Indogermanistik*, Sitzungsberichte der Heidelberger Akademie der Wissenschaften Philosophisch-historische Klasse, 1981

Mayrhofer, M., Laryngalreflexe im Indo-Iranischen, *ZPSK* 34, 1981, 427 ff

Mayrhofer, M., Über griechische Vokalprothese, Laryngaltheorie und externe Rekonstruktion, *Festschrift Neumann*, 177 ff

Mayrhofer, M., Die Vertretung der indogermanischen Laryngale im Lateinischen, *KZ* 100, 1987, 86 ff

Mayrhofer, M., *IdgGr*. 1, pp. 121-150

Meid, W., Review of F.R. Adrados, Evolucion y estructura del verbo indoeuropeo, Madrid 1963, *IF* 70, 1965/66, 346 ff

Meid, W., Methodische und erkenntnistheoretische Bemerkungen zur *Laryngaltheorie*, Laryngaltheorie, 333 ff

Melchert, H. Craig, A 'New' PIE **men* Suffix, *Sprache* 29, 1983, 1 ff

Melchert, H. Craig, Reflexes of $*h_3$ in Anatolian, *Sprache* 33, 1987, 19 ff

Melchert, H. Craig, The Middle Voice in Lycian, *HS* 105, 1992, 189 ff

Melchert, H.Craig, The third Person present in Lydian, *IF* 97, 1992, 31 ff

Merlingen, W., *Laryngaltheorie und Laryngale, Ablauttheorien und Ablaut, Versuch von Korrekturen einiger Grundlagen der Indogermanistik*, Wien, 1983

Michelini, G., *ə indoeuropeo e *h* ittito, Studi Italiani di linguistica teorica ed applicata 3, 1974, 445 ff (Padova)

Monna, M.C., *The Gathas of Zarathustra*, Amsterdam, 1978; The chapter entitled 'Hiatus caused by laryngeals', pp. 97-103

Normier, R., Idg. Konsonantismus, germ. "Lautverschiebung" und Vernersches Gesetz, *KZ* 91, 1977, 171 ff

Normier, R., Griechisch *biônai* und *halônai*: "Überleben" und "Untergehen" bei Homer, *KZ* 92, 1978, 132 ff

Normier, R., Tocharisch *ñkät/ñakte* 'Gott', *KZ* 94, 1980, 251 ff

Nussbaum, A. J., *Head and Horn in Indo-European*, 1986.

Nyman, M., *ē/ō/a* as an ablaut pattern in Indo-European, *IF* 90, 1985, 55 ff

Oettinger, N., Indogermanisch _*s(h$_2$)neur/n-_ 'Sehne' und _*(s)men-_ 'gering sein' im Hethitischen, _MSS_ 35, 93 ff

Ölberg, H.M., Einige Überlegungen zur Laryngaltheorie an Hand des Albanischen, _KZ_ 86, 1972, 121 ff

Olsen, B.A., The Stages of IE Aspiration by Laryngeal, _Fachtagung_ IX, 267 ff

Olsen, B.A., Vedic and Laryngeals _irajyáti_ and _iradhanta - badhnāti_ and _ubhnāti_, _Festschrift Rix_, 362 ff

Peeters, Chr., The Word for 'dog' and the Sequence _*wH_ + Consonant in Indo-European, _IF_ 78, 1973, 75 ff

Penney, J.H.W., Laryngeals and the Indo-European Root, _Laryngaltheorie_, 361 ff

Peters, M., _Untersuchungen_, 1980

Peters, M., Zur Frage strukturell uneinheitlicher Laryngalreflexe in idg. Einzelsprachen, _Laryngaltheorie_, 373 ff

Peters, M., _Oresth-_ neben _Orest(ā)-_, _Sprache_ 35, 1991-1993, 135 ff

Peters, M., Ein weiterer Fall für das Rixsche Gesetz, _Festschrift Rix_, 373 ff

Pinault, G.-J., Grec _agathós_, _MSS_ 38, 165 ff

Pirart, E., Le traitement des laryngales intervocaliques en vieil-avestique métrique, _MSS_ 47, 1986, 159 ff

Pirart, E., Le traitement des laryngales finales en védique ancien, _La reconstruction des laryngales_, 137 ff

Pisowicz, A., Objections d'un arménologue contre la théorie glottale, _Folia Orientalia_ vol. XXV, 1988, 213 ff. (The First International Colloquium on the Dead Sea Scrolls, ed. Z. J. Kapera. Polska Akademia Nauk. Komisja Orientalistyczna).

Polomé, E.C., The Indo-European Numeral for 'five' and Hittite _panku-_ 'all', _Pratidānam_, 98 ff

Polomé, E.C., Armenian and the Proto-Indo-European Laryngeals. _First International Conference on Armenian Linguistics: Proceedings_, 1980, 17 ff

Polomé, E.C., Reflexes of Laryngeals in Indo-Iranian with special reference to the problem of the voiceless aspirates. _Saga og språk. Studies in Languages and Literature_, 1972, 233 ff

Polomé, E.C., How archaic is Old Indic? *Studia Linguistica et Synchronica*, Pieper/Stickel (eds.), Mouton de Gruyter, 1985, 671 ff

Polomé, E. C., Recent Developments in the Laryngeal Theory, *JIES* 15, 1987, 159ff.

Polomé, E.C., Are there Traces of laryngeals in Germanic?, *Laryngaltheorie*, 383 ff

Puhvel, J., On the Origin and Congeners of Hittite *aššu-* 'good' *KZ* 94, 1980, 65 ff

Puhvel, J., 'Engendrer' et 'Enfanter' en Hittite, *Cahiers Ferdinand de Saussure* 41, 1987, 159 ff

Puhvel, J., Hidden Infixation in the Hittite Verb, *KZ* 100, 1987, 238 ff

Rasmussen, J.E., On the Status of the Aspirated Tenues and the Indo-European Phonation Series, *Acta Linguistica Hafniensia* 20, 1987, 81 ff

Rasmussen, J.E., Die Tenues Aspiratae: Dreiteilung oder Vierteilung des indogermanischen Plosivsystems und die Konsequenzen dieser Frage für die Chronologie einer Glottalreihe, *The New Sound of Indo-European*, 153 ff

Rasmussen, J.E., On the Phonetics of the Indo-European Laryngeals, *In honorem H. Pedersen*, 433 ff

Ravnæs, E., The Development of ə/interconsonantal laryngeal in Iranian, *IIJ* 23, 1981, 247 ff

Rikov, G.T., Indo-European *h_2 and *h_3 before *y and *i in Hittite, *Kuryłowicz Memorial Volume* I, 185 ff

Ringe, Jr., D.A., Laryngeal Isoglosses in the Western Indo-European Languages, *Laryngaltheorie*, 415 ff

Ringe, Jr., D.A., Laryngeals and Sievers' law in Tocharian, *MSS* 52, 1991, 137 ff

Rix, H., *Kratylos* 14, 176 ff: review of Beekes, *Development*

Rix, H., Anlautender Laryngal vor Liquida oder Nasalis sonans im Griechischen, *MSS* 27, 1970, 79 ff

Rix, H., Nochmals griech. *nêtta/nêssa/nâssa*, *HS* 104, 1991, 186 ff

Rix, H., *Historische Grammatik des Griechischen. Laut- und Formenlehre*^{2}, 1992

Rix, H., Einige lateinische Präsensstammbildungen zu Set-Wurzeln, *Kuryłowicz Memorial Volume* I, 399 ff

Roberge, P.T., On "Pragrhyatva" in Sanskrit, *KZ 99*, 1986, 54 ff

Rousseau, A., L'alternance **K-/Ø-* à l'initiale des mots en indo-européen: Essai d'interprétation sémantique, *La reconstruction des laryngales*, 149 ff

Ruijgh, C. J., Review of F.R. Adrados, Evolución y estructura del verbo indoeuropeo, *Lingua* 19, 1968, 405 ff

Ruijgh, C.J., Observations sur la flexion des verbes du type *tríbō, phrúgo*: l'origine des alternances *ī/i* et *ū/u*, *Studies Palmer*, 337 ff

Ruijgh, C. J., Le redoublement dit attique, *Mélanges Chantraine*, 211 ff

Ruijgh, C.J., Observations sur les traitements des laryngales en grec préhistorique, *Laryngaltheorie*, 443 ff

Ruijgh, C.,J., Observations sur les voyelles d'appui en proto-indo-européen et en grec ancien, *Kuryłowicz Memorial Volume* I, 345 ff

Ruipérez, M.S., *Ēléktōr et ḗlektron*, "Ambre", *Mélanges Chantraine*, 231 ff

Scharfe, H., Vokaleinsatz und Laryngaltheorie, *KZ* 86, 1972, 155 ff

Schenker, A.M., The Proto-Indo-European obstruents in their functional aspect, *Kuryłowicz Memorial Volume* I, 73 ff

Schindler, J., Die idg. Wörter für 'Vogel' und 'Ei', *Sprache* 15, 1969, 144 ff

Schindler, J., On the Greek type *hippeús*, *Studies Palmer*, 349 ff

Schleicher, Ch., A Chronology of the PIE. Obstruents, *IF* 99, 1994, 21 ff

Schmalstieg, W.R., Monophthongizations: More plausible than laryngeals!, *The New Sound of Indo-European*, 67 ff

Schmidt, G., Die iranischen Wörter für 'Tochter' und 'Vater' und die Reflexe des interkonsonantischen H (ə) in den idg. Sprachen, *KZ* 87, 1973, 36 ff

Schmidt, K.H., Historiographische Daten im Umfeld der Laryngaltheorie, *Kuryłowicz Memorial Volume* I, 11 ff

Schmidt, K.T., Spuren tiefstufiger seṭ-Wurzeln im tocharischen Verbalsystem, *Festschrift Neumann*, 363 ff

Schmitt, R., Pragmatika i sistematika v laringal'noj teorii, *VJA* 1, 1988, 23 ff

Schmitt-Brandt, R., Vokalsystem: Review by Lindeman, *IF* 73, 158 ff

Schmitt-Brandt, R., Review of Lindeman, Einführung in die Laryngaltheorie, IF 79, 1974, 226 f

Schmitt-Brandt, R., Reflexe der H-Laute im Anatolischen, *Festschrift Szemerényi* III, 187-193

Schrijver, P., *The Reflexes of the Proto-Indo-European Laryngeals in Latin*. Leiden Studies in Indo-European 2. Series. Amsterdam, 1991. Cf. the review by Lindeman, IF 98, 1993, 324 ff

Schultheiss, T., Hethitisch und Armenisch, *KZ* 77, 1961, 219 ff

Seebold, E., Die Geminata bei gm. *kann, ann* und anderen starken Verben, *KZ* 80, 273 ff

Shevoroshkin, V., Zur hethitisch-luwischen Lexik, *Orbis* 17, 1968, 467 ff

Shevoroshkin, V., Zu einigen Verwandtschaftsbezeichnungen im Lykischen und Milyischen, *MSS* 36, 131 ff

Shevoroshkin, V., On Laryngeals, *Laryngaltheorie*, 527 ff

Sihler, A.L., Greek Reflexes of Syllabic Laryngeals with a Postscript on PIE kinship terms in **-H_2ter*, *Laryngaltheorie*, 547 ff

Simeonov, B., Iz problemite na protoindoevropeistikata, *Izvestija na instituta za bŭlgarski ezik* 16, 1968, 233 ff

Simone, C. de, Hethitisch *Tarhu-* Etruskisch *Tarχu-*, *Festschrift Neumann*, 401 ff

Stang, Chr., L'alternance des consonnes sourdes et sonores en indo-européen, *To Honor Roman Jakobson*, 1890 ff

Starke, F., Uridg. **h_1d-ti-* "Speise" im Luwischen, *Sprache* 31, 1985[86], 249 ff

Strunk, K., *Nasalpräsentien und Aoriste*, Heidelberg, 1967

Strunk, K., Über tiefstufige seṭ-Wurzeln im Griechischen, *MSS* 28, 1970, 109 ff

Strunk, K., Verkannte Spuren eines weiteren Tiefstufentyps im Griechischen, *Glotta* XLVII, 1969, 1 ff

Strunk, K., Zur Rekonstruktion Laryngalhaltiger Idg. Wörter Bzw. Morpheme, *PICL* 11, Vol. I, 1972, 375 ff

Strunk, K., Heth. *huekzi*, heth. *hūnikzi* und die indogermanischen Nasalinfixpräsentien, *HethIdg.*, 237 ff

Strunk, K., Der Verbalstamm *bebolē-* im epischen Griechischen, *Studies Palmer*, 391 ff

Strunk, K., Über Laryngale und einige reduplizierte Verbalstämme, *Laryngaltheorie*, 563 ff

Szemerényi, O., The New Look of Indo-European. Reconstruction and Typology. *Phonetica* 17, 1967, 65 ff

Szemerényi, O., Palaic and the Indo-European Laryngeals, *FlorAnat* 315 ff

Szemerényi, O., Review of Burrow, The problem of shwa in Sanskrit, *Kratylos* 28, 67 ff

Szemerényi, O., *Einführung in die vergleichende Sprachwissenschaft*, 3d. edition, 1989, 114 ff

Thomas, W., Review of Puhvel, Laryngeals and the Indo-European Verb, *Orientalistische Literaturzeitung* 66, Jahrg. Nr. 11/ 12, 1971, 538 ff

Tichy, E., Avestisch *pitar-/ptar-*. Zur Vertretung interkonsonantischer Laryngale im Indo-Iranischen, *MSS* 45, 1985, 229 ff

Tischler, J., Hethitisch *ḫ* und die Rekonstruktion des indogermanischen Phoneminventars, *Fachtagung* VI, 495 ff

Tischler, J., Schwundstufige Formen von langvokalischen Verben im Altindischen, *Bono homini donum*, 311 ff

Tronskij, I.M., *Obščeindoevropejskoe jazykovoe sostojanie (Voprosy Rekonstrukcii)*, Leningrad, 1967 (esp. pp. 8-24)

Tronskij, I.M., *Sravnitel’ no-istoriceskie issledovanija, Teoretičeskie problemy sovetskogo jazykozeanija*, Moskva, 1968, 5 ff., esp. 15 ff

Untermann, J., Gr. *éthēka* = lat. *feci*, gr. *hêka* = lat. *ieci*?, *Festschrift Rix*, 461 ff

Vennemann, Th. (ed.), *The New Sound of Indo-European.* II: *Laryngeal Theory*, 23-81

Villar, F., The Indo-European vowels /a/ and /o/ revisited, *Festschrift Szemerényi* III, 139 ff

Vine, Brent, Indo-European and Nostratic, *IF* 96, 1991, 9 ff

Watkins, C., I.-E. 'star', *Sprache* 20, 1974, 10 ff

Watkins, C., Die Vertretung der Laryngale in gewissen morphologischen Kategorien in den indogermanischen Sprachen Anatoliens, *Fachtagung* V, 358 ff

Watkins, C., Notes on the Plural Formations of the Hittite Neuters, *Gedenkschrift Kronasser*, 250 ff

Watkins, C., A Greco-Hittite etymology, *Festschrift Neumann*, 455 ff

Weber, D., Einige Verba mit langvokalischer Wurzel im Indogermanischen, *AION Sezione Linguistica* 6, 1965, 5 ff

Zinko, Chr., Hethitisch *heu-* "Regen", Akten der 13. Österreichischen Linguistentagung Graz, 25.-27. Oktober 1985, Graz, 1988, 319 ff

Index verborum

The numbers refer to pages

Cuneiform Hittite
-*a*(neuter pl.), 75, 185
-*ah-ha*, 58
**ai-*, 49, 185
a-(i-)is , 49, 78
ais, 49, 78, 185
akkala-, 45
aniat, 171
aniyatta, 171
anna-, 37
anda, 37
appa, 49
ap-pé-e-ez-zi-, 49
arha, 114
arhai-, 114
arg-, 51
ar-ga, 51
arkanzi, 37
ar-ga-ru, 51
ar-ki-i-e-es, 50f
arkiya-, 50
arras, 51
(a-)ar-as-zi, 137
a-sa-an-zi, 126
asant-, 172
asanzi, 128f, 171f
a-as-su, 126
adanzi, 129, 171f

e-hu, 38, 176
eku-, 173
es-, 50
esa, 78
e-eš-ha-ha-t(i), 178
e-es-har, *eshar*, 67, 192
e-eš-ka-ah-ha, 178
e-es-na-as, 67
esha(r)nu-, 67
esmi, 24
esnas, 37, 67
ēssar, 67
e-es-zi, 78
eszi, 79, 185
es-zi, 126
ed-, 50f
edmi, 128f

-*hha-*, 177f
-*hahat(i)*, 177f
hall(a)-, 47, 54
hallanniya-, 47, 54
halzihhi, 54
hameshant-, 173
hameskant-, 173
han-, 39, 43
haniya-, 39, 43
hanna-, 37, 43, 68
hant-, 57, 180, 185
handa, 37, 180
ha-an-ta-a-az, 42
ha-an-te-ez-zi, 49
ha-an-te-iz-zi-is, 42
ha-an-ti, 42
ha-an-za, 42
ha-a-an-za, *hānza*, 74
ha(-a)-ra-as, 46
ha-as-ta-(a-)i, 46
ha-as-ta-i-si-[*ti*]*-it*, 73

ha-as-te-er-za, 124ff, 129, 172
ha-as-du-e-er, 46
ha-as-du-ir, 46
ha-a-ti, 43
ha-in-kán-ta, 83
hap(p)-, 133
happar-, 50
happin-ant-, 50, 64
happir-, 50
happiriya-, 50
hapr-, 50
ha-a-pu(-ú-)s-, 133
haran-, 124
ha-ra-na-as, 46
haras, 124, 185
har-as-zi, 141
har(k)-, 42, 185
harganau-, 127
harkanzi, 37
harki-, 57
harkis, 37
har-ki-is, 42
har-ku-un, 42
har-mi, 42
harp-, 48, 121
harapp-, 48, 121
hartag(g)a-, 54
hartka-, 54
har(u)wanai-, 134
har-zi, 42
hassa-, 57, 116, 124, 187
hāssa-, 74
hastai, 73, 152
hasdwer, 38, 48, 123, 185
had-, 43
hat-alkesnas, 43
ha-at-tal-, 43
hatt(a)-, 43
hāzta, 74
heau-, 82, 176
heu-, 82, 176
hé-ek-ta, 44
hekur, 80ff
hé-kur, 44
henkan, 45, 80
hi-en-kán, 45
hinik-, 45, 82
hi-is-sa-, 53
him(m)a-, 54
hink-, *henk-*, 45, 83
hiss(a)-, *hess(a)-*, 54
hissa-, 53f, 187
$^{\text{É}}$*hista-*, 47
$^{\text{É}}$*hi-is-ta-a-as*, 47
hiqqarza, 82, 185
**hster(-s)*, 134
hu-, 38, 176f
huekzi, 185
huett (-iya)-, 124, 150
huhha-, 38
hu-u-e-su-, 123
hu-i-su, 123
hu-i-is-zi, 123
hulana-, 94f
huliya-, 95
hulla-, 77, 115
hullanzi, 115
humanda, 170
-(h)hun, 66
huni(n)k-, 72
hurki-, 37
hu-u-e-su, 124
hu-(u-)wa-an-t-, 123
huwant-, 123

huwai-, 123
huwappa-, 28
huwapzi, 28
hwai-, 123
hwi-, 123

ie-, 176
i-it, 178
innara, 125
innarawant-, 125
ishahru-, 38
ishamai-, 68
ishamaiskizzi, 68
is-ha-na-a-as, 37, 67, 192
ishanittarātar, 68
is-har, 67
ishiya-, 68
ishisa-, 173
iskisa-, 173
is-sa-as, 78
is-sa-az, 49
issaz, 49
iya-, 75, 176
iya-nta, 75

kalless-, 115
ganess-, 116
kanessanzi, 78
ga-ni-es-zi, 78, 82, 111, 187
kasza, 188
kenua, 90
kinai-, 75
kisduwant-, 188
gneszi, 78, 82, 187
kuenzi, 188
kuissa, 115
kunanzi, 188
kuwaszi, 28

la-a-ah, 110
lah(h)-, 110
la-a-hu-i, 174
la-a-hu-un, 110
lah(h)uwai-, 110, 169
la-ah-hu-u-wa-i, 62, 174
la-hu-wa-a-ri, 169
la-hu-wa-ta-ri, 169
laman, 132
lam(a)niya-, 133
lilhuwai, 62
li(n)k-, 132

ma-ak-la-an-da-an, 171
maklant-, 171
mayant-, 150
me-e-hu-na-as, 80
me-e-hu-ur, 177
mehur, 79ff, 176, 188
me-e-ek, 149
mek, 149, 171, 195
me-ik-ki-is, 148f
mekki-, 148f, 184
mena, 180
mena-hhanda, 180
me-er-ta, *mert*, 115
mer-zi, 172
mitai-, 107

na-ah-ha-an-za, 70
na-ah-mi, 70
nah(h)-, 70, 179
nahh-un, 179
nahsaratt-, 70
nah(h)sariya-, 70

nahsariyawant-, 70
ne-pí-is, 134, 175
newa-, 70
ne-wa-a-ah, 76
ne-wa-ah-hu-un, 70
newahh-, 70f, 185, 187

pa-ah-hu-e-na-as, 108
pa-ah-hu-e-ni, 108
pa-ah-hu-ur, 108
pa-ah-hu-wa-ar, 108
pahhwen-, 109
pa(s)s-, 116, 187
pa-as-ta, 77
pa-a-as-zi, 77
pahhashaha( ), 178
pahhs-, 141, 186f
pa-ah-ha-as-mi, 70
pahs-, 36
pai-, 49
pa-is-ta, 144
palhi-, 61, 114f
pal-hi-is, 141
paltana-, 49
pár-(a)h-, 94
pár-ah-zi, 64
pár-ah-hi-is-kán-zi, 76
parh-, 114
pár-ha-an-zi, 76
pár-ha-zi, 76
parhesk-, 61, 114
parhh-zi, 76, 158, 172
pe-, 37f
pé-e-da-an, 178
pehute-, 37
pé-da-an, 178
pí(-e)-hu-te-, 37
pit-ti-ya-, 175

sah-, 79, 175, 180, 184, 188
sa-ha-a-ri, 175
sa-a-hi-is-kat-ta-ri, 175
sak-, 174
sa-a-k-hi, 174
sa-ag-ga-ah-hi, 174
sakai-, 75
sakki, 149
sakiyahh-, 75
sa-(a-)ku-wa, 68
sakuwassara-, 173
sanh(h)-, 114
sa-an-ah-hu-un, 76
sa-an-ah-zi, 76
sa-an-ha-zi, 63, 76
sa-an-hu-un, 63
sanhhzi, 63, 76, 95, 158, 172
sanku-, 69
sanku(wa)i-, 69
sarh-, 114
sarhuntalli-, 114
sas-, 179
sasant-, 179
sas-ánzi, 179
sa-su-e-ni, 179
sehur, 79f
ses-zi, 179
suhmili-, 106
suppiyahh-, 76
su-up-ya-ah, 76
su-wa-is, 68
swais, 68f

-ta, 49
da-a, 178

da-a-as, 77
da-a-i, 77, 79, 185
da-a-it-te-ni, 79
da-it-ti, 79
ta-(a-)i-e-iz-zi, 75
ták-na-a-as, 178
ták-ni-i, 178
tameum(m)a-, 176
ta-a-an, 75
dan-na-at-ta, 75f, 170
tar-, 78
tar-ah-, 63
tar-ah-hu-un, 174
d/tarant-, 172
d/taranzi, 37, 172
tarh-, 63, 94, 114
tarhanzi, 37
tarhu-, 63, 94, 115
tarhu(i)-, 94, 114
tar-hu-un, 174
tarna-, 75
tayezi, 75
te-, 78
te-eh-hi, 175
te-(e-)kán, 92, 149, 175
te-(e-)mi, 78, 185
tehhi, 152, 175
tit(t)ai-, 121
tit(t)iya, 121
ti-(ya-)an-zi, 79
tuhh-(ima-), 89, 101
tuhhui-, 89, 101
tu-wa-a-an, 75
-duma, 171
-ttuma/-dduma, 171
dummeni, 160
u-,38
ú-e-eh-zi, 87, 177, 185
ú-e-hu-un, 176f, 179
ú-e-ik-kán-zi, 87
ú-e-ik-zi, 87
ú-e-kán-zi, 87
ú-e-ga-an-zi, 87
úidar, *ú-i-da-a-ar*, 116f
uhhi, 58f, 62
ug, 150
ú-uk, 150
uqqa, *ugga*, 150
umeni, 59
ú-wa-te-, 37

wa-al-(ah)-hu-un, 76, 114
wa-al-ah-zi, 76
wa-al-ha-an-zi, 76, 114
wah-, 180
wa-ha-an-zi, 177, 179
wahnu-, 38, 173
walh-, 114
walhanzi, 114
walhhun, 114
walhh-zi, 158
walhhzi, 172, 179, 189
walh-zi, 114
warnu-, 38, 173
warsa, 60, 136f
wast(a-), 137
-wasta, 171f
watarnahh-, 137
wawarkima-, 37
weh-, 180
weh-un, 179
wehzi, 86f, 184, 188
wek(k)anzi, 179
wekmi, 87, 179

zinnanzi, 115
zinninzi, 115

Cuneiform Luwian
-*a* (neuter pl.), 75
annarummi-, 125
a(ya)-, 177
a-a-as-sa-, 49
a-as-har-nu-um-ma-in-z[*i*] (*asha(r)nu-*), 67
az-za-as-ti-, 130
azzti-, 130

-*ha*, 38
ha-an-da-wa-te-en, 42
ha-(a-)as-sa-, 46
hassa-, 38
hawi-, 39, 46, 73, 185
ha-a-ú-i-is, 46
hirun-, *hirut-*, 82
hishiyanti, 53, 62, 68
huha-, 38
**hulani-*, 94f
hu-u-i-ya-, 123

maya/i-, 149
mayassis, 149

pa-a-hu-u-ur, 108
pahur, 38
pas(s)-, 116
piha-, 82
pipissa-, 68

sahuidara-, 173
salhi(an)ti-, 115
si(h)wal-, 82
ta-pár-ha, 66
titai(m)mi-, 121
tiyammi-, 149
**duttari(ya)-*, 160
du-ú-úr, 79f
[*w*]*a-a-ar-sa-*, 60
wiwidai-, 68

Hieroglyphic Luwian
ad(a)man-, 133
hawa/i-, 46
lamnisati, 133
takami, 150
twatra, 159, 171
tú-wa/i-tara/i-, 160

Palaic
-*a* (neuter pl.), 75
ahu-, 173
malitannas, 152

Lycian
aχagã, 177
epirije-, 50
kbatra, 160
-*ga*, 38
tideimi, 121
-*χa*, 38, 66
-*χagã*, 177
χava-, 46, 73
χñna-, 38, 43
χñtawat(i)-, 42
χuga-, 38

Avestan
aēša, 54
ayan-, 103

ayarə, 103
arəša-, 54
aršān-, 56
urvarå, 92
dəng, 117
dugδar, 150, 159, 172
fəδrōi, 160, 163, 191
hištaiti, 151
kamnā-nar-, 125
gāϑu-, 144
ǰyā-tu-, 88, 99
pantå, 124, 142, 187
pantā-, 142
paϑō (paϑ-), 124, 142, 187
pita, 160
ptā, 160, 191
-mna-, 105
-yāti-, 100
rašta-, 125
rāta-, 100
rāti-, 100
vačå, 117
vāta-, 123

Old Indic
ákṣi, 67
ájati, 41, 57
ájñāta-, 100
ádar, 115
ádita, 164
ádeva-, 106
ádhāt, 118f, 121
ánati, 161
áni-ti, 114, 161, 167
á-ni-śita-, 62
anūc-, 106
anūpá-, 106
áp, 105
ápas-, 50, 64
ápāc-, 106
ápāt, 121
apāmārgá-, 106, 128
ápiprata, 62
ápratīta-, 110, 191
á-prā-t, 24
áprās, 94
á-bhar-a-t, 161
abhī ṣat, 106
ábhūt, 89, 101
ábhet, 30
ámīti, 170
ámbhas, 135f
áyajas, 43
árjuna-, 37
arṣati, 137
ávamīt, 169
avātá-, 123
áviḥ, 46, 59, 73
aśnóti, 83, 125
áśru, 38
áśva-, 52, 120
áśvāyati, 120
asura, 107
ásūta, 89
ásṛk, 192
ásta-, 55
á-starīs, 170
ásthi, 46
asnás, 67, 192
ahám, 148f
-ā (neuter pl.), 75
ā-gam-, 37
ātí-, 53
āditya, 107

ā́deva-, 106
-āna-, 106
ā́naṭ, 125
ānáṃśa, 83, 125
ānaśúr, 83, 125f
-ām (acc.sg.), 92
ā́mamat, 170
ā́ yajasva, 43
ā́ yajāmahe, 43
āyan, 106, 189
ā́yavasa-, 106, 136
āyu-, 73
āvā́m, 156
ā́sa, 116
ā́sat, 106
āste, 78

ij-, 44
idh-, 53
inddhé, 53
irajyáti, 122
iṣṭá-, 44
ījāná-, 44
īj-é, 44
īrmá-, 53
īṣā́, 54, 187

uk-tá-, 44
uccháti, 53
ud-, 53
udyáte, 53
unap, 136
unábh-, 136
up-tá-, 44
uvāca, 122
uvé, 59
uśánti, 87, 179
uś(-mási), 55, 87
uṣā́s, 53
-uṣī, 98
uṣṭá-, 44
ūc-, 44
ūcāná-, 44
ūcúr, 122
ū́dhar, 110
ū́rṇā, 94
ūrmí-, 98

ṛ́kṣa-, 54
ṛjú-, 128
ṛṣa-bhá-, 56f

é-ti, 75
-éya-, 112

kanyā̀s, 92
kāma-prá-, 62
kārú-, 28
kīrtí-, 191
kravíṣ-, 166
krī-tá-, 93
krīṇā́ti, 93
kṣaṇa-, 23
khánitum, 30
khātá-, 30
khād-, 173
khyā-, 100, 142
khyātá-, 100

garan, 161
gāḥ, 91
gā́yati, 120
gāsi, 120
giráti, 141, 173

gītá-, 74
gīrṇá-, 120, 141
gṛṇā́ti, 94
go-paā, 59
grathnā́ti, 142
grā́van-, 69
ghnánti, 188

cakára, 67
cakā́ra, 67
cáritum, 30
carkṛtí-, 191
cīrṇá-, 30

jajā́na, 67
jajñau, 155
jan-a-ta, 161
jan-anta, 161
janáyati, 67
jáni(-tva-), 192
jánima, 160
janiman-, 192
ján(i)ya-, 168f, 192f
ján(-tva-), 192
janm̥an-, 192
jāgā́ra, 131
jātá-, 189
jānū(ni), 90
jigṛtám, 130
jitá-, 29
jihmá-, 170
jīvá-, 88f, 99, 101
jīvati, 99
jīrṇá-, 189
jéman-, 29
jñātí-, 100
jñeyā́s, 112

tatá-, 55
tan-, 55
tanū-páam, 59
tárati, 64
tár-īyas-, 169
tarute, 62
tarṣiyā́vat-, 169
tastháu, 66
tāyú-, 75
tiráti, 63f
tíṣṭhati, 53, 68, 151, 184
tīrṇá-, 62ff, 165
tuvi-grá-, 62
tū-ya-, 104
tūrvati, 62, 94
trā-tá-, 165
trāyase, 165
-tha, 49

daïstha-, 59
da-t-thá, 160
da-di-má, 160
da-d-más, 159f, 192
dádhāti, 78
da-dhā-tha, 79
da-dhi-má, 160
dadhúr, 121
da-dh-más, 160, 192
dán, 117
dánt-, 129
damitár-, 30
dáv-īyas-, 169
dā-, 59, 62, 139
dāntá-, 30
di-tá-, 191
divi-yáj-, 44
diś-, 54

díśā, 54
dīrghá-, 65
duhāná-, 105
duhitár-, 25, 159, 172
duhitā́, 148, 150
duhitṛ́-, 166
dūrá-, 102, 168
deyā́m, 111
devá, 71, 139
devá-tta-, 62
deva-yájya-, 44
devā́, 156
devi, 107
deví, 107
dev(i)yā́ḥ, 71
devī, 71
deṣṭha-, 59
dyām, 91
drāṇá-, 100
dvīpa-, 189
dvīpá-, 106
dhā-, 157
dha-t-thá, 160
dháyati, 121
dhā́yas-, 118
dhíṣṇiya-, 169
dhītá-, 118
dhī-tá-, 88
dhukṣīmáhi, 88
dhūmá-, 89, 101
dheyā́m, 112
dhmā-tá-, 100

náus, 59
nábhas, 135
náṃśi, 125f
náśati,125
nas-, 55
nābhi-, 56
nā́ma, 131
nāvás, 59
nāsti, 130
nīpá-, 106

paántam, 59
paántas, 59
paánti, 59
paantu, 59
paántu, 59
pátnī, 89f
pátnīm, 90
patháḥ, 124, 142
pánthāḥ, 124, 142
párītta-, 110, 191
párītti-, 110, 191
párī-man-, 24
pávate, 30
pavitum, 30
paví-tra, 31
pā́ti, 59, 118f
pādáyati, 67
pānti, 59
pāntu, 59
pāyáyati, 120f
pitṛ́-, 166
píbati, 120, 150, 174, 184
pī-tá-, 101, 121
pī́van-, 101
punánti, 31
punāti, 31
purás, 107
pūtá-, 30
pūr, 65
pūrṇá-, 24, 34f, 42, 89, 94, 99,

173
pū́rva-, 97, 107
pṛthivi, 107
pṛthuka-, 144
pṛṇánti, 61
pṛṇā́ti, 94, 173
pṛṇīmáḥ, 61
peyā́s, 120
pyā-tá-, 100
prátīka-, 94
pratīc-, 106
prá yajatām, 43
prá yajā, 43
práyajyu-, 44
prā-, 62
prā-tá-, 99
prātár, 76
priyā́, 75, 171
phalgú, 144

bhaas-, 59
bhánati, 70
bhárati, 41
bhárant-i, 166
bhárāmah-i, 166
bhávati, 24
bhavitum, 89, 140
bháv-iya-, 169
bhas-, 116
bhā-, 82
bhāváyati, 121
bhās-, 59
bhinádmi, 30
bhindánti, 30
bhū-, 140
bhū-tá-, 24, 89, 101
bhūrjá-, 53
mathnā́ti, 142
márati, 115
mahás, 148, 184
mahā-, 148
máhi, 149
-mahi, 171
máhi-, 104, 166
mahī, 148
máhyam, 150
mātā́, 139
māti, 79, 141
-mānas, 105
mās-, 74
mitá-, 165
mūrá-, 102
mūrṇá-, 63
mṛ-tá-, 115

yaánti, 59
yajñá-, 28, 43
yatás, 105
yan, 106
yánt-, 105
yáva-, 106, 136
yávīyas-, 168
yā-tá-, 100
yātar-, 35
yāti, 75
yānti, 59
yuñjánti, 30
yunákti, 30
yuyója, 30
yúvan-, 168
yuvā́m, 156

raghú-, 132
rájaḥ, 131

ratna-dhá-, 62
ratna-dhā-, 62
rátha-, 142
rayí-, 59
rayíḥ, 59
rā-tá-, 101
rā-tí-, 101
rāyé, 59
rikha, 142
riṇā́ti, 154
riṇvati, 154
rudimás, 30
róditi, 30

vac-, 44
vad-, 53, 137
vadhu, 107
vadhū, 107, 151
vap-, 44
vámiti, 141, 169
vártati, 173
vartáyati, 67
varṣ-íya-, 169, 178
vaś-, 55, 179
váś-mi, 87
vas-, 44
vásati, 124
vásu-, 126
vāghát-, 185
vāta-, 124
vāti, 123
vār, 60
ví ṣia, 68
ví ṣiadhvam, 68
viddhá-,44
ví-m, 69
ví-ḥ, 69
vī-rudh-, 132
vīra-, 139
vṛ́ka-, 71
vṛkíyaḥ, 71
vṛkī , 107
vṛkī́h, 71
vṛj-, 37
vṛjiná-, 37
vṛ́ṣan-, 56
véti, 123
véda, 66
véḥ, 68
vyadh-, 44
vyayati, 179

śatru-, 120
śatrūyati, 120
śámī-, 65
śamnīte, 36, 62
śā́khā-, 144
śās-, 173
śíkhā, 142
śithiráḥ, 145
śímī, 65
śimīvant-, 65
śimyati, 65
śī-, 62
śyenas, 134
śrā-tá-, 101
śrathnāti, 142
satya-yáj-, 44
sadhás-, 151
sadhástha-, 151
sádhiṣ-, 151
sána-, 68
sánitar-, 94
sani-ṣyant-, 94

sanóti, 63, 94, 190
sánti, 126f, 129
sabhā-, 112
sabhéya-, 113
sás-ti, 179
sākám, 94
sā-tá-, 94, 190
sāman-, 68
s(i)yá-, 68
sú, 128
suápnas-, 64
suváti, 89
suastí-, 64
su-yáj-, 43
su-yajñá-, 43
súṣuti-, 62, 191
sū-, 62
sūtave, 191
sū-tá-, 89
sū-nára-, 102, 189, 125
sūnús, 139
sup(-tá-), 55
sū-máya-, 106
sū́ras, 88, 109
skabhitá, 30
skambhitum, 30
stár-, 124
stāyú-, 75
stīrṇá-, 33, 99
stṛṇā́ti, 33, 77, 94
stṛṇóti, 77
stṛṇvánti, 77
s-thá, 128
sthávira-, 102
sthā-, 111
sthā́virīs, 102
sthi-tá-, 164
sthūrá-, 102
stheyā́m, 112
s-máḥ, 128
svap-, 55
svápnas-, 64
svastí-, 64, 130

hánu-, 148, 151
hánti, 188
hários, 112
hásta-, 151
hā́rdi, 140
hi-tá-, 158, 164
hṛd-, 140
hṛdayā-vídh, 44

Armenian
aliwr, 162
akanǰkʻ, 157
akn, 68, 133
ałay, 161f
aławri, 162
ałuēs, 102
am-ul, 95
ayc, 103
ayr, 125
aniw, 56
anuan, 132
anun, 132
ačʻkʻ, 90f, 133
ardar, 104f
arawr, 162
aṙin, 56
aṙn, 56
astł, 124, 134
atamn, 129
areg(-akn), 134

arew, 134
artawsr, 38

gaṙn, 64
gełman, 95
gełmn, 95
gom, 124, 156
gnayun, 105

dalar, 192f
dustr, 159f

eber, 161
ełew, 36
es, 131
erek, 131
erkar, 102

inj, 131
inn, 131
li, 99
lsem, 161
luaw, 161

caneay, 83
cnaw, 161

keam, 73, 88, 99
keray, 115
keraw, 115

h-, 38
han, 39
hanem, 39, 43
hat, 43
haw, 39
hogi, 47
hoviw, 47
hot, 47
hur, 108

jukn, 154, 157

malem, 62
meṙanim, 115f
meṙay, 115
mis, 74
molar, 104
mukn, 156
ogi, 47
oṙk‘, 51
orb, 47
orjik‘, 51
ort, 144
orjwoc‘, 51
oskr, 47
ost, 48

ul, 95
-un, 105
unkn, 157

stuar, 102

vat‘sun, 132
vec‘, 132

taygr, 156
teṙem, 115
teṙec‘i, 115

c‘ax, 144

p‘alp‘ali-, 144

pʻayl, 144

kʻaw, 104f
kʻsan, 131

Lithuanian
akì, 133
ántis, 53
añtras, 139
árklas, 141
árti, 141
béržas, 53
bū́ti, 89, 101, 140

dañtį , 140
dė́ti, 30, 78
diẽvas, 140
dieverìs, 156
dìrbo, 161
duktė̃ , 159
duõs, 140
dúoti, 140

enti, 105 (OLith.)
ẽras, 46
er̃žilas, 51
ežė̃, 85
ẽžeras, 85

gaidỹs, 120
gar̃das, 139
gérti, 141, 163, 195
giedóti, 120
gìrtas, 163f, 190
gývas, 88

imù, 64

jéntė , 35
jóti, 75
kálnas, 164, 193f

mótė, 139

nèšti, 125
nósis, 28

par̃šas, 140
pėdà, 4750
pìlnas, 24, 42, 94, 141, 163,173
plónas, 141

riẽkti, 142

s̨áųl̨ė, 141
sniẽgas, 140
stataũ, 164
stõs, 139
sū́nų, 139
šerdė̃, 140
šérdę, 140
šérdį, 140
šerdìs, 140
sė́ti, 139
šìrdį, 140
širdis, 140

tariù, 78
úosti, 47, 81

várna, 140
vémti, 141
vèsti, 151

vežù, 58
vil̃kas, 141
vìlna, 94
výras, 139
výti, 113

žùkmistras, 154, 157
žùkparnis, 154, 157

Latvian
ar̂kl(i)s, 141
dìevs, 140
dzer̂t, 141, 163, 195
dzîga, 155
dzîvs, 88
gaîlis, 120
mãte, 139
naba, 56
pȩ̂ds, 47
pil̃ns, 141
plâns, 141
saũle, 141
ser̂de, 140
sẽt, 139
sir̂ds, 140
snìegs, 140
ùotrs, 140
vem̃t, 141
vìlks, 141
vir̃s, 139

Old Prussian
ane, 68
-manas, 105
nabis, 56
poklausīmanas, 105
suckans, 154

Old Church Slavonic
jazъ, 85
bajǫ, 112
bě, 101
děti, 78
dymъ, 89, 101
živъ, 101
-ica, 154
imę, 131
kostь, 153
nesti, 125
něstъ, 130
novakъ, 154
oči, 90, 133
pasti, 70, 186
piti, 101
pra(dědъ), 76
rěka, 154
soxa, 144
tajǫ, 75
umyti, 38
věja, 113
věјati, 123
zvonъ, 70
žena, *ženo*, 107
živъ, 88

Russian
jaz, 85
górod, 140
poróm, 141
voróna, 140
solóma, 194

Serbo-Croatian
bȉti, 140
dȁti, 140
grȃd, 140
mȁti, 139
mjȅra, 141
pȁsti, 141
prȁm, 141
prȃse, 140
pȕn, 94, 141
rȁlo, 141
slȁma, 194
snȇg, 140
sȑce, 140
vrȁna, 140
vȗk, 141

Slovene
grȃd, 140
vrána, 140

Czech
míra, 141
pásti, 141

Albanian
emër (*emën* Geg.), 131
gjumë, 55
h-, 39
rjep, 122
ropa, 122
thikë, 142

Greek
aátos, 96
a(w)áomai, 962
a(w)ásthē, 137
a(w)átē, 137
agathós, 110
hagnós, *28*, *43*
ágnumi, 72
agós, 71f
agostós, 151
ágō, 22, 31, 41, 45, 57,71
adámatos, 96
-áednos, 124, 151
áella, 123
**hāwélios*, 81, 88, 109
a(w)éksō, 125
aérsē, 137f
áesa, 124
a(w)éskei, 124
azoménē, 74
ázō, 43
a(w)ēsi, 123f, 134f
aieí, 73
aíthō, 23, 53
aíks, *aigós*, 103
aínumai, 49
-aîos, 112
Aísōpos, 102
akmḗ, 45
akónē, 45
akoúō, 153
ákros, 45, 81f
aléō, 169
alétrios, 162
alḗthō, 169
(w)alō-, 77
(am-)boli(-ergós), 65
amnós, 73
amphí, 55
an-áednos, 124, 150
ánauros, 60

a-ne-mo (Myc.),167
ánemos, 169
aner-, 55
anḗr, 125
annís, 43
antí, 36, 42, 57
ántlon, 43
anúo, 63
hanútō, 63
apó, 49
araŕiskō, 82
ārḗ, 82
arḗn, 64
argḗs, 37, 42
árguros, 43
ā́riston, 103
árktos, 54
arnós, 100
árotron, 141
ársen-, 56f
astḗr, 124ff, 128, 134, 189
audḗ, 53, 137
auksánō, 125
austaléos, 28

bā-, 70
bállō, 99
béblēka, 62
bio-, 93
bíotos, 93
biō-, 73
blē-, 65
blê-to, 99
blē-tós, 63
blṓskō, 64
brō-, 62
bōmós, 29, 70

génus, 147, 151
gígnetai, 62
gloiós, 113
gnoíēs, 112
goûna, 90

dāḗr, 156
dákru, 38
damázō, 167
dam-ē-, 167
dédorka, 72
dérkomai, 72
des(pótēs), 117
dḗn, 75
dērós, 102
dia-ttáō, 75
diēnekḗs, 125
dí-do-men, 160
dídōmi, 29, 41, 93
dízēmai, 102
dí-phr-os, 106
dolikhós, 65
dotós, 29, 165, 188
dókhmios, 170
dokhmós, 170
dō-, 29
dôke, 152
dôron, 29

éāge, 72
ébalon, 36, 62
ébān, 81
e-bíō, 88, 99, 167
e-bíōn, 93
egeírō, 130
egrḗgora, 130
egṓ, 148

ed-estḗs, 139
éd-ēda, 139
édmenai, 129
édomai, 50
édontes, 129
édōke, 152
éedna, 151
eérsē, 137f
eh-ensi, 126f, 128
e(w)erg-, 135
eérgō, 135
e-e-si (Myc.), 126
éēge, 72
e-thélō, 123
éthoron, 64
eíkosi, 90
eilḗloutha, 138f
eîmen, 88, 90
eimí, 24
einatéres, 35
Eiraphiṓtēs, 56
ékamon, 36, 62
(w)ekṓn, 87
elakhús, 132
élapho-, 56
elégkhō, 132
eleutherós, 132
élēla, 139
elēl(o)uth-, 126f, 138
élipon, 22
emé, 131
émetos, 141
(em)é(ō), 169
émole, 64
émolon, 64
enegk-, 126
enegkeîn, 126
hénē, 68
enḗnothe, 138
ennéa, 131
énuma, 131f
Enumakratídōs, 131
hêpar, 80
(é-)peson, 65
épeton, 65
ép-ēlus, 138
epí, 49
épleto, 22, 36
époron, 64
e-pría-to, 93
érebos, 131
ereíkō, 142
eréptomai, 48
éripho-, 56
ersapho-, 56
ersen-, 56f
ersēn, 56f
hésperos, 135
héstāke, 152
estí, 50
estóresa, 64
éstrōsa, 33
étore, 64
eû, 126
euanoría, 102
eús, 126
eúkhomai, 185
ephílēsa, 120
éphū, 89, 101
héōs, 53
hēdíōn, 169
hêke, 152
ēnoréē, 102
hêstai, 78

zātós,102
zeiai, 106
zên, 89
zētéō, 102
zṓei, 99
zṓïon, 100
zōó-, 101
zōró-, 102
zōwó-, 99

thalerós, 192
tha-m-á, 165
theíēn, 111
thélō, 75, 123
theós, 169
thés(-phatos), 169
thetós, 101ff, 115
thêke, 153
thêlus, 118
thḗr, 100
thêsthai, 118
thrṓskō, 64
thugátēr, 148, 150, 159, 166
thūmíē, 101
thūmós, 101
thōmós, 78, 165

-ia-, 89
-ia(n), 89
híemai, 123
ith-, 53
itharós, 23, 53
iktînos, 135
histāmi, 29, 41, 80
-ískō, 65
ikhthū́s, 154

katharós, 104, 145
kálamos, 194
kámatos, 96
kámnō, 36, 96
kardía, 140
(kasí-)gnētos, 98f, 101
kékmēka, 36
kéllō, 123
kephalḗ, 145
kêr, 140
kêruks, 28
kmātós, 96
kotharós, 145
kradíē, 140
kré(w)as, 166
kunéō, 28

lâas, 85
**lânos*, 65
lewo- (Myc.), 110
lewotreios (Myc.), 110
lewotrokhowoi (Myc.), 110
leípō, 22
leípsō, 41
léloipa, 22
lépas, 85
lênos, 65, 94
liparós, 104
lo(w)e-, 110, 170
loéssai, 110
loetrón, 110
loigós, 136

mâkos, 170
méga, 145, 166
megálo-, 148, 166
megalṓnumos, 166

mégas, 134, 148f, 149
-*menos*, 104f
-*mestha*, 171
mikrós, 135
molobrós, 62
mûs, 156
mōró-, 102

-*nā-*, 42
néā, 107
neân, 70, 187
néāks, 154
ne(w)ô-[sai], 71
n̄eph-, 135
néō, 107
nḗgretos, 130
nêssa, 53
nêstis, 130
nêtta, 53
n̄iphás, 135
nōreî, 136
númpha, 107

ógmos, 22, 45
odont-, 129
ózos, 35, 46, 48, 123, 185
ózō, 31
oîda, 67
oîdma, 23
oiḗion, 54
oímē, 68
oîmos, 68
-*ois* (opt.), 162
óis, 46
ówi-, 73
oîstha, 144
oiōnós, 73
o-kéllō, 123
ókris, 46
óllumi, 54
ómbros, 135
ómnūmi, 170
ómo-men, 170
omórgnūmi, 128
omóssai, 170
omphalós, 55
ónoma, 131
onómati, 131
óno-tai, 131
ónuma, 131, 166
oksús, 46
**opi*, 49
ópithen, 49
ópisthen, 49
ópissō, 49
opuíō, 133
orégō, 122, 127
orek-tós, 127
Oréstheion, 145
Oréstēs, 145
**orgú-*, 128
órguia, 127f
órnis, 46
órros, 51
orphanós, 48
órkhis, 51
orōrékhatai, 127f
orōrékhato, 127
hós, 135
ósse, 68, 90f, 133
ostéon, 46, 153
oûs, 73, 153
outáō, 136
ópsomai, 41

palá-mē, 65, 96
páros, 63, 107
Pā́n, 102
patḗr, 166
peíthō, 173
peithṓ, 46
pélomai, 22, 36
pépompha, 143
péprōtai, 64
peráō, 64, 141
perás(s)ai, 193
pimplēmi, 99
pî-thi, 101, 119
pī́ōn, 101
plê-to, 99
plēthū́s, 144
pleîstos, 58
polú-rrēnes, 100
pórnē, 193
pôthi, 76
pôlos, 95
pô-ma, 76, 101, 118
pótnia, 89f
pótnia(n), 86, 89f
pró, 107
prósōpon, 93
prō-ī́, 76
ptólin, 65f
ptólis, 65
pûr, 108f
purós, 109f

(w)rag(ênai), 165, 190
rhagênai, 97
re-wo-te-re-jo (Myc.), 110
re-wo-to-ro-ko-wo (Myc.), 110
wrēg-, 173
rhḗgnūmi, 97
rhēktós, 165
-rrēni, 100

sā́wos, 104
-stha, 144
staíēn, 112
stā́mōn, 29
statós, 29, 164f, 188
stégos, 68
steropḗ, 128
storésai, 170
stórnūmi, 99
stratāgós, 166
stratós, 166
strō-tós, 99, 170
sphe, 143
skheîn, 143
sôs, 104

tató-, 55
tégos, 68
telamṓn, 193
telássai, 193
têle, 95
tētáomai, 75
tí-the-men, 160
títhēmi, 30, 78
tlā-tós, 99
tlētós, 65, 96
tólma, 193
tórmos, 193

hu-giḗs, 89, 128
hud-, 53
hudéo, 53
húdōr, 60, 95, 117f

húpnos, 55
hū-s, 101
**-usya*, 98
huphaínō, 136

phāmí, 23, 70, 81, 112
phásis, 23
pherómeth-a, 166
phéront-a, 166
phérō, 41, 58, 70
philéō, 119
philḗsō, 120
phū-, 101
phōnḗ, 23, 70

khéwō, 192
ôpa, 93
ōmēstḗs, 166
ṓmorgmai, 128
ōmós, 166
ṓregmai, 127
-ōs-e, 71

Latin
ab-oleō, 47
acer, 82
aemidus, 23
aēnus, 24
ago, 31, 41, 57
albeo, 120
albes, 120
alumnus, 105
amb-, *ambi-*, 56
anas, 53
anatis, 53
ante, 36,42, 57
anterior, 42
antīquus, 102
anus, 43, 68
aqua, 84, 122
āra, 57, 187
arātrum, 141, 162
arāre, 162
arceo, 42, 185, 187
argentum, 43
armus, 53
āsa, 116
au-, 38, 177
audax, 154
auferre, 38, 177
augere, 124
auis, 73
auris, 73
aurora, 53
avus, 85

-bā-, 101
bibit, 89, 150, 184

caput, 145
collis, 194
cord-, 140
costa, 153
culmus, 194

dare, 157
datus, 23, 158, 164
dedi, 64
dens, 129
do, 164
donum, 23

edi, 139
edo, 50

effigia, 86
effigies, 86
ego, 148
emi, 64
emo, 64
equus, 52
euntis, 105

factus, 23, 164f
faex, 79
fama, 23
fari, 112
feci, 23
fero, 41, 58
ferōx, 93
fīmus, 79
fumus, 89, 101
fundō, 192
fūdī, 192

gens, 192
gentis, 192
genua, 90
gignit, 62
-gnatus, 189
(g)nosco, 78, 83
granum, 189

imitor, 54
intrare, 75
iuuencus, 154

lana, 65, 94
laxus, 97, 190

magnus, 145, 150
māne, 80
materies, 86
mātūrus, 80
meo, 79
mergo, 35
metuo, 120
metutum, 120
mihi, 150
momentum, 80
moueo, 80

nāris, 28
nauis, 154
nepos, 85
nomen, 131
nouare, 70, 187

ocris, 46
odisti, 145
odor, 47
olet, 47, 81
ops, 64
opulentus, 50
opus, 50
orbus, 48
os, 46
ōs, 50
ouis, 47, 73, 185

palma, 65, 96
palūs, 82
pasco, 36, 70
pastor, 36, 47, 70, 141, 186
pastus, 141
planus, 61, 141
plēbēs, 144
plenus, 24
-plere, 24

-pletus, 99
porcus, 140
pōtus, 118
pro, 76, 107

rapio, 122
ratus, 97, 190
regō, 122
rem, 59
renouare, 187
res, 59
riuos, 154
riuus, 154
rota, 142

sagio, 149
sāgus, 75
salūs, 82
sang(uen), 154
sedes, 151
semen, 79
senatus, 154
senex, 68, 154
sido, 35
sied, 183
sies, 88
simus, 88, 90, 102
sistit, 151, 184

tentum, 55
(t)latus, 65
trans, 63
triginta, 171
-trix, 154

umbilicus, 55f
unguis, 56, 69
ursus, 54

velleris, 95
vellus, 95
ventus, 124
vesper, 135
viere, 113
vir, 89
vīvo, 99
vivus, vivos, 88, 99, 101, 154
voveō, 185

Oscan, Umbrian
aasaí, 57, 116
-ai(i)o-, 112
bivus, 88
kumaltu, 62
pir, 108
sent, 126
ukar, 46

Tocharian
B *akemane*, A *ākmāṃ*, 104
B *awi*, 73
AB *āk-*, 104
A *ānt*, B *ānte*, 58
B *ālme*, 86
A *ārki*, B *ārkwi*, 43, 58
A *aśäṃ*, 91
A *aśnis*, 91
AB *ās-*, 116
A *e-*, 49
B *eś(a)ne*, 91
B *ai-*,49
B *käryā-mai*, 93
B *kärweñe*, 96
B *keni*, 91

A *kñasäṣt*, 78
AB *krās-*, 97
A *ckācar*, 58, 94, 159
B *ñuwe*, 94
B *ñem*, 131f
A *ñom*, 131f
B *tkācer*, 58, 94, 159
B *parwe*, 97
A *pärwat*, 97
B *pärweṣṣe*, 97
B **pällew*, 96f
B *puwar*, 97, 110
A *por*, 97, 110
A *pratsak*, B *pratsāko*, 93
A *māk*, B *māka*, 150
B *yamicer*, 88, 93
A *yām-i-mäs*, 88, 93
A *(yām)us*, B *(yām)usa*, 98
B *yolme*, 86
B *yneś*, 91
B *lāñe*, 98
B *lāñće war*, 98
B *lāre*, 97f
B *śuwaṃ*, 94
A *śāyu*, 100
A *śo-*, 94
A *śol*, B *śaul*, 100
B *śaiyye*, pl. *śānta*, 100
B *śau-*, *śai-*, 94, 99f
B *śaumo*, pl. *śāmna*, 100
B *śamāne*, A *śāmāṃ*, 100
B *śaweṃ*, 100
A *śāweñc*, 100
A *śwāṣ*, 94
B *salyiye*, 58
A *sāle*, 58
B *slakkare*, A *slākkär*, 97f

Gothic
aleina, 195
anþar, 140
asans, 53
asts, 35
aukan, 124
baira, 22, 58
baitrs, 102
bar, 22
baurans, 22
bauþ, 22
bereina, 88
bereima, 90
biuda, 22
budum, 22
dauhtar, 25, 148, 159
doms, 23, 78
-ēt, *ētun*, 139
fon, 108
fulls, 24
funins, 110
ga-deþs, 101
gibos, 92
giutan, 192
hausjan, 153
igqis, 155
ik, 148
ist, 50
itan, 50
kinnus, 148
-kunnan, 83
lats, 97
laþon, 54
manaseþs, 101
mikils, 148f
namo, 131
niun, 156

qiwa-, 88
raihts, 127
riqis, 131
saihʷa, 25
saihʷan, 68
saisost, 145
sauil, 88
sind, 126
snaiws, 140
sokjan, 149
spaiskuldra, 156
stairno, 124
staþs, 164
twaddje, 112
ugqis, 155
uz-on, 113
-waddjus, 113
waian, 123
winds, 123
wisan, 124

Old Scandinavian
afi, 85
alin, 195
ann, 114
ái, 85
byggja, byggva, 113
dīa, 121
dyggr, 156
dóttir, 24
endr, 194
fune, 110
fúrr, 108
gumi, 85
kann, 114
keikr, 171
kvikr, 89, 155
mjok, 195
nóa(-tun), 154
nór, 154
sunr, 89
tveggja, 112
tyggva, 94
úr, 60
veggr, 113
ylgr, 71
Ægir, 84f
ænder, 194
ǫln, 195
ǫnd, 195
ǫnþ, 195

Modern Scandinavian
die (Norw.), 121
keik (NNorw.), 171
seks (Norw. Dan.), 153

Old Saxon
ambon, 55
anad, 195
naco, 155
nigun, 156
spekaldron, 156

Old English
ænid, 195
clǣg, 113
cnāwan, 78, 83, 112
cwic, cwicu, 154f
dugob, 156
ened, 195
hærfest, 194
naca, 155
nigun, 156

tācor, 156
weotuma, 151

Modern English
daughter, 24
good, 111
six, 153

Old High German
amban, 55
ana, 43, 68
ano, 68
anut, 53, 194
aro, 46, 185
ars, 51
aru, 46
ast, 48
āz, āzun, 139
bittar, 102
blat, 97, 190
enit, 194
fruo, 76
fuir, 108
halam, 194
houwan, 113
kiuwan, 94
knāen, 78, 83
kunnēn, 83
niuwōn, 70, 187
quec, 155
sât, 101
sihu, 25
slaf, 97
speihhaltra, 156
speihhilla, 156
tât, 101
trahan, 38, 156
tugund, 156
wāen, 83
zand, 129
zeihhur, 156
zweiio, 112

Modern High German
Ahorn, 82
gut, 111
sechs, 153
Tochter, 24

Gaulish
duχtir, 159

Old Irish
**ad*, 43
aid, 43
aide, 43
ainm, 131
air, 63
anim (Mid. Ir.), 122
anmae, 117, 133
áirne (Mid. Ir.), 122
-ánaic-, 83
-áncammar, 83
-áncatar, 83
-ānec-, 83, 125f
art, 54
asna, 73
asnai, 73
bé, 118
ben, 118
béu, 88f
bráe, broí, 122
crenaid, -cria, 93
Dar-, Der-, etc., 159

dét, 129
diuchtra-, 131
do-adbat, 169
do-adbadar, 170
do-formaig, 170
do-formagar, 170
don, 92
dú, 92
-e (gen. sg.), 72
em- (air-fo-em-), 64
err, 51
fer, 89
glenaid, 113
gní-, 101
-gníth, 101
ibid, 89, 120, 150, 174, 184
-icc, 83
imbliu, 56
irar, 46
it, 126
ithid, 88
lám, 96
lán, 89
liacc, lie, 85
-mair, 63
náire, nár, 70
nie, 85
oí, 73
renaid, 193
(ro-)icc, 125
sen, 68
séitche, 72
sétig, 72
so-, su-, 126
soilse, 72
talam, 96
Ter-, 159
túaithe, 72
túath, 72
úan, 52
uirge, 51

Welsh
asgwrn, 46, 73
byw, 88
cun (MlW), 145
chwïadan (NW.), 69
dafad, 96
hwyad, 69
malaf, 62
ranc (MlW), 83
rhwygo, 142

Old Cornish
abrans, 122
asen, 46, 73

Breton
abrant-, 122
hoar, hoer, 137
c'hoar, 137
cleyer, 111
kleier, 111
malaff, 62
malañ, 62
seier, 111

Phrygian
anar, 125
ev-, 126
-menos, 104

Thracian
aiz-, 103
Aizikē, 103
**auras*, 60

Venetic
-mno-, 105

Non-Indo-European Languages

Finnish
aisa, 54
kesä, 53
koke-, 53

Estonian
ais, 54

Udi
ẹk, ẹk-ur, 52

Hurrian
[*h*]*a-(a)-kal-li*, 44

Sumerian
é.gal, 44
é.kur, 44

Semitic
Akk. *ekallu*, 44
Akk. *ekurru*, 44
Ugar. *hkl*, 44
Hebr. *hēkal*, 44
Hebr. *wayyisaᶜ*, 158
Hebr. *yaᶜazḇū*, 158
Hebr. *yaᶜᵃzoḇ*, 158

Berber
tħ’ba, 158
tS.bγ’t, 158
txZ.nakkʷ, 159

Index nominum

Page numbers concern the more important references only

Adrados, F.R., 77
Allen, W.S., 27, 143, 181
Ammer, K., 174
Anderson, R., 24
Antonsen, E.H., 85
Anttila, R., 125
Austin, W.M., 135

Bader, F., 106, 109, 135
Bammesberger, A., 165
Barton, Ch.R., 161
Baumbach, L., 110
Beckwith, M.C., 61f
Beekes, R.S.P., 35f, 45, 60, 68, 73, 108f, 113, 126
Benveniste, E., 26, 45, 51, 54, 66, 77, 107, 118f, 122
Bennett, W.H., 194
Berg, N., 28, 90, 94, 162
Bjorvand, H., 194
Blust, R.A., 146f, 183
Bolognesi, G., 156
Bomhard, A.R., 28, 32, 39, 151
Bonfante, G., 176
Borgstrøm, C.Hj., 149f, 153
Brugmann, K., 21, 106
Bugge, S., 160
Burrow, T., 92, 118, 165

Campanile, E. 47
Cantineau, J., 190
Carruba, O., 152f, 187
Catsanicos, J., 75, 81, 96, 106, 126, 128, 137f, 172
Chadwick, J., 110
Chomsky, N., 157
Christol, A., 158
Collinge, N.E., 35, 42
Connolly, L.A., 108
Čop, B., 32
Couvreur, W., 98
Cowgill, W., 34, 42, 45f, 52f, 58, 70f, 77, 90, 98, 110, 112, 126, 132, 135, 146, 155, 168
Crossland, R.A., 37f, 79, 134, 156, 173, 176, 178
Cuny, A., 31, 33f, 35, 51, 173

Darms, G., 84
Davies, Mopurgo A., 130
Debrunner, A., 102, 107
De Chene, B., 24
De Lamberterie, Ch., 127, 161
Dell, F., 158
Demiraj, B., 122
Diver, W., 79, 120
Djahukian, G.B., 39, 147
Dogopol'skij, A. B., 32
Duridanov, I., 60, 103
Dybov, V.A., 89

Edgerton, F., 113
Eichner, H., 28, 37f, 50, 75, 80ff, 94, 147, 149f, 158, 177
Elmedlaoui, M., 158
Endresen, R.Th., 147
Erhart, A., 151

Forssman, B., 90, 106
Fraenkel, E., 85
Francis, E.D., 167
Friedrich, J., 94, 124
Fritz, M., 61

Gamkrelidze, T.V., 49, 51f, 57, 108
Garret, A., 108
Geldner, K., 161
Gippert, J., 52
Godel, R., 103
Grassmann, H., 112
Greppin, J.A.C., 39, 102, 156
Grønvik, O., 85
Gusmani, R., 53

Halle, M., 157
Hammerich, L.L., 108, 110, 136
Hamp,E.P., 39, 70, 88, 93, 95, 103, 106, 109, 122, 143, 148, 154
Harðarson, J.A., 95, 144
Hart, G., 67, 117, 178
Hawkins, J.D., 160
Hiersche, R., 28, 72
Hirt, H., 21ff, 70, 96, 106
Hjelmslev, L., 26
Hock, H.H., 147
Hoenigswald, H.M., 53, 60, 67f, 96, 142
Hoffmann, I., 121
Hoffmann, K., 100, 112
Hopper, P.J., 145
Houwink ten Cate, Ph. H. J., 150
Hubert, C., 162
Huld, M.E., 109, 147
Hübschmann, H., 21

Illič -Svityč, V.M., 31f
Isebaert, L., 93, 97f
Ivanov, V.Vs., 42, 59ff, 173, 180

Jackson, K., 111
Jakobson, R., 145
Jasanoff, J.H., 66, 75, 78, 108, 110, 112f, 118
Job, M., 147, 157, 182
Jonsson, H., 36

Kaiser, M., 32
Kammenhuber, A., 38, 47, 152
Kent, R.G., 144
Kimball, S.E., 74, 116, 130
Klein, J.S., 102
Klimov, G.A., 52
Klingenschmitt, G., 91, 104f, 144, 162
Ködderitzsch, R., 125
Koivulehto, J., 52f
Kortlandt, F., 39, 47f, 70, 89, 140
Kronasser, H., 37, 78
Kuiper, F.B.J., 64f, 107, 110, 151, 189, 191
Kuipers, A.H., 27
Kuryłowicz, J., 27, 34ff, 45ff, 52ff, 64, 67, 70, 72ff, 90ff, 101, 106, 110, 119, 123, 128ff, 138, 142, 150, 163, 174

Ladefoged, P., 146, 181f

Laroche, E., 38, 42f, 49, 63, 66, 89, 94, 175
Lass, R., 182
Lehmann, W.P., 77, 113, 135, 140, 155, 174
Lejeune, M., 46, 72, 99, 105
Leukart, A., 145
Lid, N., 85
Lindeman, F.O., 28, 35ff, 45, 49f, 55ff, 61ff, 70, 74ff, 81ff, 92ff, 104, 109ff, 116f, 160f, 168, 191f
Lohmann, J., 49
Lubotsky, A., 48, 53, 69, 126
Lühr, R., 114

Maddieson, I., 146, 182
Martinet, A., 27, 41f, 49, 73, 77, 153ff, 158, 173f
Matchavariani, G.I., 51
Mayrhofer, M., 44, 46, 54, 59f, 61f, 67, 78, 82f, 90ff, 102, 131, 151, 161f, 186f
Meier-Brügger, M., 96
Meillet, A., 35, 48, 110, 160
Melchert, H.C., 38, 42, 45, 47, 49f, 54, 59, 63, 68, 73ff, 86f, 94, 105f, 114ff, 149f, 171, 173, 177ff, 185
Meriggi, P., 60, 133
Messing, G.M., 48f, 106 Møller, H., 31, 33, 37

Neu, E., 44f, 47, 58, 75, 78, 83, 87, 108, 134, 178
Neumann, G., 47, 51
Nikitina, F.A., 138
Nilsson, T.K., 53
Normier, R., 62, 65, 89, 102f,
Nussbaum, A.J., 116
Nyman, M., 190

O'Brien, A., 159
Ölberg, H.M., 39
Oettinger, N., 46, 49, 51, 69, 78, 82, 91
Ofitsch, M., 46
Olsen, B.A., 102, 115, 122, 132, 144, 169f
Osthoff, H., 86
Oštir, K., 32

Pedersen, H., 23, 32, 42, 70, 101, 148
Peeters, Chr., 89
Penney, J.H.W., 52
Peters, M., 56f, 64, 90, 94, 126, 136, 145
Pinault, G-J., 94, 100
Pirart, E., 60, 109
Pisani, V., 100
Pisowicz, A., 147
Poetto, M., 43
Poljakov, O., 47
Polomé, E., 37f, 45, 48f, 68, 76ff, 150, 154ff
Porzig, W., 124
Puhvel, J., 37f, 43ff, 50ff, 67, 72, 74ff, 82f, 116, 125, 176, 185ff
Pulleyblank, E.G., 27

Rasmussen, J.E., 148, 183
Ravnæs, E., 160

Reinhart, J., 134
Renou, L., 65, 102
Rikov, G.T., 75
Ringe, Jr., D.A., 92
Risch, E., 78
Ritter, R.-P., 56
Rix, H., 50, 54ff
Roberge, P.T., 107
Rosén, H.B., 111
Rosenkranz, B., 31, 59
Ruijgh, C.J., 56, 70f, 112
Ruipérez, M.S., 65, 110

Safarewicz, J., 27
Sapir, E., 135, 153
Saussure, F.de, 28ff, 33, 45
Scheller, M., 175
Schenker, A.M., 143, 181
Schindler, J., 69, 93, 100, 108, 136, 160, 169
Schleicher, Ch., 146
Schmalstieg, W.R., 36, 79
Schmeja, H., 139
Schmid, W.P., 47, 59
Schmidt, G., 126
Schmidt, K.H., 63
Schmidt, K.T., 73, 86, 157
Schmitt-Brandt, R., 77
Schulze, W., 118
Schwyzer, E., 90
Seebold, E., 84, 113, 156
Shevoroshkin, V., 32
Sihler, A., 145
Singer, I., 47
Skardžius, P., 140
Sommer, F., 59, 86, 105, 171
Specht, F., 157
Speiser, E., 175
Stang, Chr., 28, 91f, 105, 164, 193
Starke, F., 130, 149, 160
Stempel, P. de, 63
Strunk, K., 47, 65, 77, 94
Sturtevant, E.H., 37, 43, 48, 57, 76ff, 87, 186f
Sweet, H., 31
Szemerényi, O., 28, 50, 64, 71ff, 105, 116, 126, 139, 168

Taillardat, J., 52
Thomas, W., 91, 98
Thümmel, W., 144
Tischler, J., 45, 63
Troubetskoy, N.S., 190
Tumanjan, E.G., 156

Ventris, M., 110
Vine, B., 32, 65
Vogt, H., 51f
Volkart, M., 48

Wackernagel, J., 102, 107, 112
Watkins, C., 37f, 43, 47, 51, 58, 75, 82, 93, 114, 123f, 134
Windekens, Van A.J., 100
Winter, W., 47, 77, 100, 110, 129
Witczak, K.T., 95
Woodhouse, R., 146f, 183
Wyatt, W.F. jr., 34f, 130

Zgusta, L., 48

INNSBRUCKER BEITRÄGE ZUR SPRACHWISSENSCHAFT

Veröffentlichungen 1993–96 und Vorschau 1997

76: Wolfgang Meid, **Die erste Botorrita-Inschrift. Interpretation eines keltiberischen Sprachdenkmals.** 1993. 140 S. öS 480.-. ISBN 3-85124-639-X.

77: Günter Neumann, **Ausgewählte Kleine Schriften.** 1994. 700 S. öS 1.960,–. ISBN 3-85124-640-3.

78: **Sprachen und Schriften des antiken Mittelmeerraumes. Festschrift für Jürgen Untermann zum 65. Geburtstag.** Herausgegeben von Frank Heidermanns, Helmut Rix und Elmar Seebold. 1993. X, 512 S. öS 1.760,–. ISBN 3-85124-643-8.

79: Jacqueline Boley, **The Hittite Particle** *-z/-za.* 1993. 262 S. öS 640,–. ISBN 3-85124-644-6

80: Calvert Watkins, **Selected Writings.** Edited by Lisi Oliver. 2 Volumes: I: **Language and Linguistics.** II: **Culture and Poetics.** 1994. XX, 771 S. öS 2.400,–. ISBN 3-85124-645-1.

81: Dagmar S. Wodtko, **Sekundäradjektive in den altirischen Glossen. Untersuchungen zur präfixalen und suffixalen Wortbildung.** 1995. VIII, 357 S. öS 840,–. ISBN 3-85124-650-0.

82: Wolfgang Griepentrog, **Die Wurzelnomina im Germanischen und ihre Vorgeschichte.** 1995. 540 S. öS 1.400,–. ISBN 3-85124-651-9.

83: **VERBA ET STRUCTURAE. Festschrift für Klaus Strunk zum 65. Geburtstag.** Herausgegeben von Heinrich Hettrich u. a. VIII, 372 S. öS 1.200,–. ISBN 3-85124-653-5.

84: Karl Hoffmann – Bernhard Forssman, **Avestische Laut- und Flexionslehre.** 1996. 330 S. öS 760,–. ISBN 3-85124-652-7

85: Karin Stüber, **Zur dialektalen Einheit des Ostionischen.** 1996. 175 S. öS 400,–. ISBN 3-85124-657-8.

86: **Aspects of Latin. Papers from the Seventh International Colloquium on Latin Linguistics, Jerusalem, April 1993.** Edited by Hannah Rosén. 1996. 735 S. öS 1.920,–. ISBN 3-85124-659-4.

87: Thomas Krisch, **Zur Genese und Funktion der altindischen Perfekta mit langem Reduplikationsvokal. Mit kommentierter Materialsammlung.** 1996. 111 S. öS 320,–. ISBN 3-85124-660-8.

88: Anne Broger, **Das Epitheton bei Sappho und Alkaios. Eine sprachwissenschaftliche Untersuchung.** 1996. 331 S. öS 760,–. ISBN 3-85124-661-6.

89: Thomas Lindner, **Lateinische Komposita. Ein Glossar, vornehmlich zum Wortschatz der Dichtersprache.** 1996. 224 S. öS 560,–. ISBN 3-85124-662-4.

90: Georgios K. Giannakis, **Studies in the Syntax and the Semantics of the Reduplicated Presents of Homeric Greek and Indo-European.** 1997. 317 S. öS 640,–. ISBN 3-85124-665-9.

91: Fredrik Otto Lindeman, **Introduction to the 'Laryngeal Theory'.** 1997. 246 S. öS 720,–. ISBN 3-85124-666-7.

Vorträge und Kleinere Schriften

59: Haiim B. Rosén, **Is a Comparative Indo-European Syntax Possible?** 1994. 46 S. öS 180,–. ISBN 3-85124-646-2.

60: Francisco R. Adrados, **Laryngale mit Appendix?** 1994. 30 S. öS 160,–. ISBN 3-85124-647-0.

61: Winfred P. Lehmann, **Residues of Pre-Indo-European Active Structure and Their Implications for the Relationships among the Dialects.** 1995. 74 S. öS 240,–. ISBN 3-885124-649-7.

62: Francisco Villar, **A New Interpretation of Celtiberian Grammar.** 37 S. öS 180,–. ISBN 3-85124-654-3.

63: Wolfgang Meid, **Heilpflanzen und Heilsprüche. Zeugnisse gallischer Sprache bei Marcellus von Bordeaux.** 1996. 63 S. öS 180,–. ISBN 3-85124-655-1.

64: Wolfgang Meid, **Kleinere keltiberische Sprachdenkmäler**. 1996. 61 S., mit Abbild. öS 180,–. ISBN 3-85124-656-X.

65: Peter Anreiter, **Keltische Ortsnamen in Nordtirol.** 1996. 86 S. öS 200,–. ISBN 3-85124-658-6.

66: Karl Horst Schmidt, **Celtic: A Western Indo-European Language?** 1996. 26 S. öS 100,–. ISBN 3-85124-663-2.

67: Reinhard Stempel, **Die Diathese im Indogermanischen. Formen und Funktionen des Mediums und ihre sprachhistorischen Grundlagen.** 1996. 91 S. öS 200,–. ISBN 3-85124-664-0.

INNSBRUCKER BEITRÄGE ZUR SPRACHWISSENSCHAFT

Bestell- und Auslieferungsadresse:

A-6020 Innsbruck, Elisabethstraße 11
Telefon und Telefax: (+43-512) 56 19 45